DOCUMENT RESUME

ED 220 664 CE 033 592

AUTHOR Chapman, Warren; Katz, Martin R.
TITLE Career Information Systems in Secondary Schools. Final Report of Study 2: Comparative Effects of Major Types of Resources.
INSTITUTION Educational Testing Service, Princeton, N.J.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
PUB DATE Mar 82
CONTRACT 400-79-0020
NOTE 205p.; For a related document see CE 033 591.

EDRS PRICE MF01/PC09 Plus Postage.
DESCRIPTORS *Career Awareness; Career Choice; Comparative Analysis; Computer Oriented Programs; *Delivery Systems; Educational Resources; Experiential Learning; Information Dissemination; Information Needs; *Information Sources; Information Systems; Information Utilization; National Surveys; *Occupational Information; Poverty Areas; Questionnaires; Reference Materials; Relevance (Information Retrieval); Resource Materials; School Surveys; *Secondary Education; Student Attitudes; *User Satisfaction (Information); Use Studies
IDENTIFIERS *Career Information Systems

ABSTRACT

A study examined the comparative effects of major types of career information resources currently available to secondary school students on students' career awareness and career decision making. Twelve schools representing six different types of delivery systems and two levels of poverty comprised the study sample. Evaluated during the study were computer-based, experience-based, materials-based, instruction-based, publications-based, and minimal-resource delivery systems. A special instrument was designed and administered to over 100 students in each school, and interviews were conducted with from 11 to 19 students in each school. The major finding of the study was that there were no clearly discernable effects attributable to the resources available at the schools. There were also no effects attributable to the poverty level of the schools. Various recommendations were made to encourage students to use appropriate resources more frequently and effectively than they do now. Among these were calls to establish a curriculum for career decision making, to use experiential materials and programs, to improve resources for educational planning, to test materials on samples of students, and to improve computer systems. (MN)

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ED220664

CAREER INFORMATION SYSTEMS IN SECONDARY SCHOOLS

FINAL REPORT OF STUDY 2:

Comparative Effects of Major Types of Resources

by

Warren Chapman
Martin R. Katz

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

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Educational Testing Service
Princeton, New Jersey
March 1982

CE 033 592

The work upon which this publication is based was performed pursuant to Contract No. 400-79-0020 of the National Institute of Education. It does not, however, necessarily reflect the views of that agency.

ACKNOWLEDGMENTS

Very many people took part in this study. Unfortunately, most of them must go unnamed if we are to preserve the anonymity of the 12 specimen schools that provided data for the research. Nevertheless, we wish to thank them for their help--the over 1,500 students, the principals, teachers, and other staff members who freely gave their time and energy. It is a remarkable thing that no school that was asked to participate refused to do so.

Closer to home, we want to thank the ETS research teams that went to the schools, administered the questionnaire, interviewed students, talked with the staff, and observed the career information resources. They are Lola R. Appel, Mary F. Bennett, Patricia L. Casserly, Patricia L. Kelly, Lila Norris, Myrtle W. Rice, James T. Rosso, Laurence Shatkin, Stephen C. Vail, and Gita Z. Wilder. Patricia Casserly and Mary Bennett organized and executed that aspect of the study.

We are also much indebted to Henry I. Braun and Donald A. Rock of ETS for help in the research design and the statistical analyses. Lila Norris also sacrificed her time to pore over the tables with us, discuss their implications, and suggest avenues for further investigation. Katherine Kornhauser, Norma Norris, Ingeborg Stiebritz, and Stephen C. Vail were responsible for the data analysis and the innumerable computer runs that a study like this entails.

All of the questionnaire items on the "Occupation Specified" scale had to be scored differently for each occupation chosen by a student. In all, it was necessary to develop scoring keys for over 100 occupations. The gigantic task of developing the keys was executed by Amy Weber and Mary F. Bennett.

The dreary job of typing the manuscript and all those tables was done carefully and (we think) without error by Madeline Bara and Lynne Barton. Christine V. Sansone steered the report on its numerous journeys through the word processor.

Finally, we had a solid structure of outside support. A Research Advisory Council was especially convened for this study and its predecessor. the Survey of Career Information Systems in Secondary Schools. Their guidance was invaluable. Its members were Hector Chavarria, Principal, Santa Maria, California; Joyce H. Clark, Chicago Board of Education; Marcia Freedman, Office of Conservation of Human Resources, New York; David Jepsen, University of Iowa; Thelma C. Lennon, North Carolina Department of Education; Polly Parish, Director, Colorado Information System (since retired); Daniel Sinick, then with George Washington University, Washington, D.C.; and David Winefordner, Appalachia Educational Laboratory.

The Research Advisory Council was augmented by the presence of Robert Alexander of the National Governors' Association, and Sandra Streeter, Director of the New Jersey State Occupational Information Coordinating Committee. They were most informative and helpful.

Our NIE monitor was Ronald Bucknam, who was invariably constructive, patient, and full of insight. For a while Nancy Borkow worked with him, sharing his virtues.

For NOICC, Walton Webb and Russell Flanders were our monitors. Other Government officials who took time from their schedules to advise us were Neil Rosenthal and Kathy Wilson of the Bureau of Labor Statistics; Michael Pilot and Jules Spector of the Department of Labor; and the NIE Technical Advisory Panel: Maurice Birch (Department of Labor), Cheryl Berry (NIE), Robert Calvert (National Center for Educational Statistics), Evelyn Ganzglass (Department of Labor), Paul Mancheck (Office of Education), Nancy

Pinson (Maryland State Department of Education), David Pritchard (Office of Education), Michael Pilot (Bureau of Labor Statistics), Stuart Rosenfeld (NIE), Walton Webb (NOICC), and Steven Zurilliger (Office of Education).

Robert Hoppock was our project consultant. His help was immeasurable.

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CHAPTER I

RESEARCH DESIGN AND DATA COLLECTION

This report presents the findings for the second of two linked studies conducted by Educational Testing Service (ETS) for the National Institute of Education (NIE) in joint sponsorship with the National Occupational Information Coordinating Committee (NOICC).

The report of Study 1 (Chapman & Katz, 1981) explained the genesis of the two studies and the Government's interest in sponsoring them. The explanation will not be repeated here. In brief, the studies addressed these two questions:

Study 1. What career information is currently being disseminated to secondary school students, how is it being provided, what is the quality of such information, and what is its value to students?

Study 2. What are the comparative effects of alternative types of career information delivery systems on the career awareness of secondary school students?

Research Design

General features. NIE's request for proposal called for an examination of 12 schools featuring different types of career information delivery systems in an attempt to find out which types are most effective. Types were to be determined from the findings of Study 1, a survey of 10 percent of the nation's public secondary schools.

As Study 1 progressed, it became apparent that a great variety of resources existed and that their distribution was uneven. For instance, the survey instrument for the schools named 130 different resources classified in 13 separate categories (see Table 1*). No school with enough students to participate in Study 2 relied on only one resource or only one category of resource. Bound references were found in 98 percent of the schools, computer systems in only 24 percent, and simulations in even fewer--18 percent.

It became clear that, with only 12 schools for the sample frame, we could not make fine distinctions about what constitutes a type. Considering NIE's interest in career information delivery systems, as well as the findings from Study 1, six broad "types" were proposed as follows:

---

*Tables appear at the end of each chapter.

1. Computer based
2. Experience based
3. Materials based
4. Publications based
5. Instruction based
6. No special emphasis

The attributes of each type and criteria for selection of schools will be described later in this chapter.

Besides exhibiting a plethora of potential "types," secondary schools vary in many different ways, such as location, size, setting (urban, suburban, rural), ethnic composition, enrollments in various programs (e.g., general, academic, vocational), and poverty level of the student body. Again, the limitation to 12 schools precluded a design that could yield statistically trustworthy information about all those dimensions. Therefore a design was chosen that would provide information of paramount interest to NIE and NOICC--poverty level and setting, as well as types. Later, at the suggestion of the study's Research Advisory Council, rural setting was dropped, leaving a 2 X 6 design with two levels of poverty and six types, as shown below:

	Poverty Level	
Type	High	Low
1. Computer-based	X	X
2. Experience-based	X	X
3. Materials-based	X	X
4. Publications-based	X	X
5. Instruction-based	X	X
6. No special emphasis	X	X

Sample size. A sample of 100 or more students (with allowance for refusals and nonresponse) was proposed for each school. Of these, 90 were to be users of the resource that defined "type" and 10 nonusers. Grades 10, 11, and 12, as well as different curricula, were to be represented about equally. Also, the sample was to include some handicapped and minority students.

Poverty level. Because of the government's particular interest in the employment problems of poor urban youth, schools for Study 1 were classified in three strata. Stratum 1 included all schools in the central city of a standard metropolitan statistical area as defined in the 1970 census with 12 percent or more of their student bodies living in poverty in accordance with the standard federal poverty guidelines (Orshansky index). Schools from this stratum were considered eligible for the "high poverty" group for Study 2.

Stratum 2 contained schools in nonmetropolitan areas, as classified by the 1970 census, regardless of the poverty level of the students. These were dropped from consideration for Study 2.

Stratum 3 consisted of all remaining schools, including schools in the central city areas with less than 12 percent poverty. Schools from this stratum were considered to be candidates for the "low poverty" group.

Criteria for types. Although more than 1,800 schools participated in Study 1, this generous sample frame for Study 2 was considerably reduced by the research design. Schools with small enrollments were excluded by requirements for at least 100 students from each of the 12 schools. Also, the schools should be matched as well as possible in order to control all variables except those under scrutiny. Since Stratum 1 schools were by definition high poverty, center city, and Stratum 3 schools were low poverty with a good urban representation, we decided to pick six schools from each stratum.

In consultation with the Research Advisory Council, these school constraints were agreed on:

1. The number of students in each of grades 10, 11, and 12 must be at least 100.

2. There must be at least 20 percent of the students in an academic curriculum and at least 20 percent in general and vocational/technical combined.

3. There must be at least 10 percent minority youth.

The source of data about the schools was the school questionnaire administered for Study 1. That instrument is reproduced as Appendix A of the final report of that study (Chapman & Katz, 1981).

At the suggestion of the Research Advisory Council, we did several different computer runs with the criteria for type set at different levels. The purpose of this procedure was to make each type as distinctive as possible so that differential effects, if found, could be linked to type of resource. For example, we could say that a school qualified as an instruction-based type if (among other things) it offered a course in career planning that lasted a week or more; or we could set the level at a semester or more, or even a year or more. Obviously the more instruction, the better the school for our purposes as a representative of the instruction-based type. The penalty for increasing the severity of the criteria was the shrinkage of eligibles in the pool of candidates. Thus a balance had to be struck empirically between "purity" of type and retention of sufficient schools in each category of the design.

The final criteria are as follows. (Numbers in parentheses refer to questionnaire items in the school instrument for Study 1.)

1. Computer-based: (a) one or more terminals on site available at least 3.5 hours per day and used at least 2.5 hours per day (Q 23, 24, 25); (b) a computer system named as the school's most valuable resource (Q 14); (c) a computer system named at least twice as the resource

recommended for answering a set of 10 questions about occupations (e.g., education and training required, employment outlook, etc.--Q 12); (d) a computer system named at least twice as the resource recommended for a set of specific purposes (e.g., arousing students' interests, familiarizing students with many occupations--Q 13).

2. Experience-based: (a) exploratory work experience available to or required of all students or students in certain curricula (Q 40c); (b) career days required or available as above (Q 40d); (c) job site tours required or available as above (Q 40e); (d) job shadowing (in-depth observation of a worker) required or available as above (Q 40f); (e) at least 10 percent of total students enrolled in exploratory work-experience programs (Q 42c), and at least 10 percent participating in career days (Q 42d), and at least 10 percent participating in job shadowing (Q 42e).

3. Materials-based: (a) at least one filmstrip viewer and cassette player available for student use for accessing occupational information and used at least one hour per day (Q 32, 33b); (b) audiovisual materials and microfiche materials and noncomputerized sorting materials available that cover at least 20 different occupations (Q 30); (c) at least one microfiche viewer or reader-printer available for accessing occupational information (Q 34).

4. Publications-based: (a) at least one copy of the most recent edition of the Occupational Outlook Handbook available to students; (b) at least 16 of the following resources available for use (Q 11):

Occupational Outlook Handbook
Dictionary of Occupational Titles
Encyclopedia of Careers and Vocational Guidance
I Can Be Anything: Careers and Colleges for Young Women
Occupational handbooks of the military services
Careers, Inc., briefs/kits
Chronicle Guidance briefs/library
SRA briefs/kits
Vocational Biographies
Occupational briefs published by your state or another state
Pamphlets prepared by professional associations
Pamphlets prepared by private businesses
Career World
Occupational Outlook Quarterly
Real World
Civil service exam bulletins (state and federal)
Your Career in . . . (Julian Messner)
Your Future in . . . (Arco or Richards Rosen)
Directories of businesses and industries
School-prepared card files or lists of employers, speakers, or contact people
College directories arranged by occupations
Vocational school directories

5. Instruction-based: (a) school courses in career planning available to or required of all students or students in certain curricula

(Q 40a); (b) occupational information units in subject matter courses available or required as above (Q 40b); (c) at least 10 percent of total student enrollment participating in courses in career planning (Q 42a) and at least 10 percent participating in the occupational units of subject matter courses (Q 42b); (d) participating students spend at least a semester in the courses in career planning (Q 44a) and at least a semester in the occupational units of subject matter courses (Q 44b).

6. Minimal resources: (a) no one at the school serving as director or head of career guidance (Q 8, Part A); (b) no computer terminals at the school (Q 19, Q 23); (c) no needlesort or keysort materials at the school (Q 37); (d) 9 or fewer of the publications listed above as criterion b for publication-based systems (Q 11); (d) failure to qualify for types 1-5.

These criteria yielded 142 schools from Strata 1 and 3 that qualified as one of the first five types without also qualifying as another type (i.e., type 1, but not types 1 and 2 or 1 and 3 simultaneously), and 50 schools that qualified as type 6, as follows:

Type	Number qualifying
1	19
2	32
3	31
4	48
5	12
6	50

In addition, a few schools qualified for three types, and a few more for two types. (Types 3 and 4 with 20 schools, and types 2 and 4 with 9 were the most common combinations.) One might expect such combinations to have a favorable synergistic effect, but ETS statisticians advised against including them in a study of individual types. Considering all the ways that schools and students can differ, we had enough uncontrolled variables already without mixing types.

Instruments. A special questionnaire was developed for the study (see Appendix A). The properties of the instrument are described in the next chapter. Here it is enough to say that the questionnaire was designed to reveal the student's grasp of information about an occupation he or she was actually thinking about entering, as well as occupational information in general. Knowledge of occupations a student is not considering is largely irrelevant for that student, whereas knowledge of the ones the student is considering is clearly important. Moreover, we had agreed with NIE to investigate the students' ability to choose between two occupations on the basis of the occupations' likelihood of satisfying the students' own values (a measure of competence in career decision-making). No published instruments explored these areas.

The questionnaire was to be supplemented by an interview with about 10 percent of consenting respondents and with two or more nonusers of the delivery type.

Administration of the questionnaire and conduct of the interviews were to be done by two members of the ETS staff with a minimum of inconvenience to the school. The staff members would answer students' questions about the instrument and help them over rough spots. Students would be allowed as much time as class schedules permitted to answer the questionnaire.

The instrument was constructed with the advice of the study's Research Advisory Council and with the cooperation of the Committee on Evaluation and Information Service of the Council of Chief State School Officers. It was recommended for positive action by those groups and was approved by the Federal Education Data Acquisition Council.

Plan for selection of students. The plan provided that students in the 12 schools be selected in collaboration with members of the school staff. We hoped to get 42 students from each of the grades 10, 11, and 12 who had used the school's career information system. We wanted equal numbers drawn from the academic, general, and vocational/technical curricula, with adequate representation of sex, race, and ability. In addition, we wanted a few handicapped students and about 15 students who had not used the information resources. We expected this pool of 141 students to yield a sample of 90 users and 10 nonusers. Since equal cell size was not a requirement of the design, more than 100 students would be allowed to participate if they wanted to.

Plans for data analysis. The design called for (a) summary statistics for all questionnaire items for the total sample and for appropriate subsamples, (b) analysis of questionnaire items to examine the structure of the instrument and determine its reliability, (c) analyses of variance and covariance for each criterion score, and (d) a regression analysis to determine the relative contribution of independent variables in explaining each of the criterion measures. Student interviews were to be written up as individual case studies. It should be noted that the questionnaire contained 14 items testing the students' grasp of work-related vocabulary. Six of the items were general vocabulary taken from the Sequential Tests of Educational Progress (STEP). These tests are standardized and the properties of the items have been analyzed and documented. These items can be used in analyses of covariance to control for the expected differences in verbal ability of the subjects.

Actual analysis of the data went considerably beyond these plans. The analysis and findings are discussed in later chapters.

Data Collection

Selection of schools. We examined the questionnaires of all 192 schools that had qualified as a type. One school of each type was selected from Stratum 1 (high poverty) and one from Stratum 3 (low poverty). The schools were matched as well as possible on their demographic features (enrollment, number of guidance professionals, distribution of students by grade, and so on) and on their setting (urban, suburban, and the like). Every attempt was made to select schools that were homogeneous

except for type and stratum. In the case of Type 1 schools (computers), we wanted to select schools that used the same computer-based system, since there are wide differences in systems. Only two computer-based systems appeared in the schools in sufficient numbers to be listed in the pool of candidates for the computer type. They were Guidance Information System (GIS) and "your state system" (which in three states was based on GIS). The two schools with the best matches used GIS; in one of the schools, it was also the state system.

Given the number of variables we were trying to control and the distribution of the candidates in the two strata, matching was quite difficult. In general, however, schools appeared to be quite comparable in most characteristics--other than type and stratum--that could be determined in advance.

The schools will not be identified by name in this report or by specific geographical location in order to keep our promise of confidentiality. The schools are labeled by poverty level and type and by region of the country in Table 2. The school identification numbers run from 0 to 11 rather than 1 to 12 because the schools were labeled this way in some of the computer outputs.

Cooperation of the schools was solicited by mail in accordance with the protocols set forth in the request for clearance from the Federal Education Data Acquisition Council. Some follow-up telephone calls or correspondence was necessary to get consent in some cases. In the end, every school invited agreed to participate.

Data collection. From February 23 through April 28, 1981, teams of two (sometimes three) ETS staff members visited each school on a schedule agreed to by the schools. School staff were cooperative and helpful. They selected student participants, arranged times and places for interviews, and provided general support.

It was not always possible to select students in the manner described in the proposal. Sometimes a school could provide only whole classes rather than students selected individually because they had used the career resources. Therefore we oversampled as extensively as we could in order to get a sufficient number of users. For the same reason, we interviewed more students than the design called for. Random selection was not a requirement of the research design.

Table 3 shows the number of respondents, ranging from 179 to 96, and the number of students interviewed at each school (from 19 to 11).

The study team helped students with the questionnaires, explained items when problems of interpretation arose, and read some items aloud.

Besides interviewing students, the study team talked to school staff and observed the school's career information resources. The interviews and observations were written up immediately after the event.

Data analysis. The data analysis is described later. It should be observed here that each school was called in September 1981 in order to check on its status with respect to the poverty of its students. In Study 1, Stratum 1 was composed of schools "in the central city of a standard metropolitan statistical area (SMSA) as defined in the 1970 census" (Chapmen & Katz, 1981, p. 3). The six "poverty" schools were taken from Stratum 1. Much can happen in a decade that includes school busing. Therefore in September the schools were asked how many of their students had been on the reduced cost or free school lunch program in the spring of 1981. It is an interesting sidelight of the study that (assuming the two criteria of poverty are equivalent) changes had occurred in some schools. No matter which criterion was used, the analysis of variance revealed no main effects attributable to poverty. This matter is discussed in the chapter on findings.

Distribution of the sample. Tables 4-9 show the distribution of students selected for the study in each of 12 schools by race (Table 4), grade level (Table 5), sex (Table 6), high school program (Table 7), percentage of handicapped students (Table 8), and post-high school plans (Table 9). The distribution by race varied considerably, ranging from 85 percent white at the Nonpoverty/Minimum school to 27 percent at the Poverty/Computer school. One school (Nonpoverty/Experience) had 33 percent Asian, and another school (Poverty/ Computer) had 66 percent Hispanic. The distribution for grade level was more nearly uniform except at the Nonpoverty/Publications school, where 60 percent of the sample were 12th graders, and the Poverty/Computer school, where only about 16 percent were 11th graders. Distribution by sex was satisfactory, the worst case being 41 percent female versus 58 percent male, with 1 percent unclassified. Distribution by school program was also fairly uniform except for numbers in the vocational/technical program; here the range was 2 percent to 32 percent. Also, at the Nonpoverty/Publications school only 19 percent classified themselves in the general program and 23 percent in "other." Definitions of programs differ from school to school, and this inconsistency may account for some of the variability. The number of students who classified themselves as handicapped was low at all schools, reaching 9 percent at only one (Poverty/Publications). Finally, distribution by post-high school plans followed a fairly consistent pattern; at most schools, the largest percentage of students expected to enroll in a four-year college; at the Poverty/Computer school, however, more students expected to go to a vocational/technical, business, or trade school than to a four-year college.

With N's of over 100 at all schools but one, these distributions, although not ideal, provide sample students for each category of analysis.

Summary

Chapter I describes the research design and data collection for the second of two linked studies of career information systems in secondary schools. The purpose of the study, conducted for the National Institute of Education, was to determine, if possible, the comparative effects of

different types of career information delivery systems as used in the schools. Twelve schools representing six different types of delivery systems and two levels of poverty were selected on the basis of data obtained from Study 1, a national survey. Thus each type appeared twice, once at each poverty level. A special instrument was designed by the researcher and given to over 100 students in each school, and interviews were also conducted with from 11 to 19 students in each school in the spring of 1981. Standard statistical procedures were used, including analysis of variance and regression analysis.

Table 1

Resources Identified for Study 1

Section II — Occupational Information Resources at Your School

Q.11 A number of occupational information resources are listed in the three columns below. Which of these are available AT YOUR SCHOOL?

Please circle the code next to each resource that is available at your school. (Do not include additional resources that may be available from an external source, such as a district resource center.) The resources are grouped by category. If your school has a resource not included on the list, please enter its name in the space provided for its category.

Bound References

- A1 Occupational Outlook Handbook
- A2 Dictionary of Occupational Titles
- A3 Guide for Occupational Exploration
- A4 Encyclopedia of Careers and Vocational Guidance (Hopke)
- A5 I Can Be Anything: Careers and Colleges for Young Women
- A6 Employment Opportunities for the Handicapped
- A7 The National Apprenticeship Program
- A8 Occupational handbooks of the military services
- A9 Worker Trait Group Guide (AEL)
- A10 Other (specify): _____

Occupational Briefs and Kits

- B1 B'nai B'rith briefs
- B2 Careers, Inc. (Largo, FL) briefs/kits
- B3 Catalyst pamphlets
- B4 Chronicle Guidance briefs/library
- B5 SRA briefs/kits
- B6 Occupational Guidance briefs (Finney Co.)
- B7 Guidance Centre monographs
- B8 Job Fact Sheets (Alumnae Advisory Center, now Center for Career Planning)
- B9 Vocational Biographies
- B10 Occupational briefs published by your state or another state
- B11 Pamphlets prepared by professional associations
- B12 Pamphlets prepared by private business (e.g., General Motors)
- B13 Write-ups on jobs held by your former students
- B14 Other (specify): _____

Periodicals

- C1 Career World
- C2 Occupations in Demand
- C3 Occupational Outlook Quarterly
- C4 Real World
- C5 Civil service exam bulletins (state and federal)
- C6 Other (specify): _____

Series of Books on Individual Occupations

- D1 Opportunities in . . . (VGM)
- D2 Your Career in . . . (Julian Messner)
- D3 Your Future in . . . (Arco or Richards Rosen)
- D4 Other (specify): _____

List of Employers

- E1 Directories of businesses and industries
- E2 School-prepared card files or lists of employers, speakers, or contact people
- E3 Other (specify): _____

Educational Directories for Occupations

- F1 College directories arranged by occupations (e.g., College Blue Book: Degrees Offered by College Subject)
- F2 Vocational school directories (e.g., Lovejoy's Career and Vocational School Guide, and NCES Directory of Post Secondary Schools with Occupational Programs)
- F3 A job training directory for your state
- F4 Other (specify): _____

Computerized Information Systems

- G1 CHOICES (Canadian System)
- G2 COIN (Coordinated Occupational Information Network)
- G3 CVIS (Computerized Vocational Information System)
- G4 DISCOVER
- G5 GIS (Timeshare's Guidance Information System)
- G6 Your state system (including adaptation of other state system)
- G7 Your school or county system
- G8 Other (specify): _____

Audio-Visual Materials

- H1 Your own school-made slides, tapes, cassettes, films, videotapes
- H2 Externally produced slides, tapes, cassettes, films, videotapes
- H3 Other (specify): _____

Microforms

- I1 State or regional microfilm or microfiche (such as VIEW)
- I2 Local microfilm or microfiche
- I3 Other (specify): _____

Non-Computerized Sorting Materials

- J1 Keysort or needlesort (specify): _____
- J2 Score interpretation guides for inventories or tests (specify): _____
- J3 Other (specify): _____

School-Arranged Experiences

- K1 School courses in career planning
- K2 Occupational information units in subject matter classes
- K3 Exploratory work experience (co-op work-study, EBCE, etc.)
- K4 Career days, speakers, assemblies
- K5 Career clubs
- K6 Volunteer service arranged by school
- K7 Job site tours or visits (field trips)
- K8 Job shadowing (in-depth observation of a worker)
- K9 Conferences with community representatives (employed alumni, workers, employers)
- K10 Other (specify): _____

Simulations

- L1 Simulations (such as Singer or SRA Job Experience Kits, school-prepared simulations)

Personal Contact With School Staff

- M1 Conferences with counselors
- M2 Assistance from other guidance staff

Table 2

The 12 Schools Selected for the Study

ID	Label	Region
0	Nonpoverty/Computer	Midwest
1	Nonpoverty/Experience	Northwest
2	Nonpoverty/Materials	Plains
3	Nonpoverty/Publications	Northeast
4	Nonpoverty/Instruction	Midwest
5	Nonpoverty/Minimum	Midwest
6	Poverty/Computer	Southwest
7	Poverty/Experience	Southeast
8	Poverty/Materials	Southwest
9	Poverty/Publications	Plains
10	Poverty/Instruction	Mountain
11	Poverty/Minimum	Southwest

Table 3

Number of Respondents and Number of Students Interviewed at Each School

	Number of respondents to questionnaire	Number of Students interviewed
Nonpoverty/Computer	179	16
Nonpoverty/Experience	123	12
Nonpoverty/Materials	129	11
Nonpoverty/Publications	121	13
Nonpoverty/Instruction	135	12
Nonpoverty/Minimum	113	15
Poverty/Computer	168	17
Poverty/Experience	107	14
Poverty/Materials	112	19
Poverty/Publications	119	14
Poverty/Instruction	96	13
Poverty/Minimum	124	11

Table 4

Composition of Sample: Distribution by Race

Race	Schools											
	Nonpov/ Computer (N=179)	Nonpov/ Exper. (N=123)	Nonpov/ Materials (N=129)	Nonpov/ Publics. (N=121)	Nonpov/ Instruct. (N=135)	Nonpov/ Minimum (N=113)	Pov/ Computer (N=168)	Pov/ Exper. (N=107)	Pov/ Materials (N=112)	Pov/ Publics. (N=119)	Pov/ Instruct. (N=96)	Pov/ Minimum (N=124)
Hispanic	1.7	3.3	8.5	2.5	0	4.4	66.1	2.8	20.5	0.8	22.9	22.6
White, not of Hispanic origin	69.8	38.2	66.7	69.4	84.4	85.0	26.8	43.0	66.1	84.9	66.7	73.4
Black, not of Hispanic origin	27.9	23.6	15.5	23.1	14.1	7.1	3.6	50.5	6.3	12.6	4.2	3.2
American Indian or Alaskan native	0	1.6	0.8	1.7	0	1.8	0.6	0	0.9	1.7	2.1	0
Asian or Pacific Islander	0.6	33.3	3.9	1.7	0.7	0.9	0.6	0	4.5	0	2.1	0
Other	0	0	4.7	1.7	0.7	0.9	2.4	3.7	1.8	0	2.1	0.8

NOTE: All figures are percentages.

Table 5

Composition of the Sample: Distribution by Grade Level

Grade	Schools											
	Nonpov/ Computer (N=179)	Nonpov/ Exper. (N=123)	Nonpov/ Materials (N=129)	Nonpov/ Publics. (N=121)	Nonpov/ Instruct. (N=135)	Nonpov/ Minimum (N=113)	Pov/ Computer (N=168)	Pov/ Exper. (N=107)	Pov/ Materials (N=112)	Pov/ Publics. (N=119)	Pov/ Instruct. (N=96)	Pov/ Minimum (N=124)
10th	24.0	26.0	31.8	24.0	42.2	33.6	44.0	33.6	27.7	44.5	32.3	33.9
11th	35.2	48.8	31.8	12.4	31.9	31.9	15.5	36.4	37.5	22.7	32.3	31.5
12th	40.2	25.2	33.3	60.3	25.2	34.5	39.9	29.0	33.0	32.8	35.4	34.7
Other	0.6	0	0	0.8	0.7	0	0	0	1.8	0	0	0
Not sure	0	0	0	1.7	0	0	0.6	0	0	0	0	0
Unclassified response	0	0	3.1	0.8	0	0	0	0.9	0	0	0	0

NOTE: All figures are percentages.

Table 6

Composition of the Sample: Distribution by Sex

Sex	Schools											
	Nonpov/ Computer (N=179)	Nonpov/ Exper. (N=123)	Nonpov/ Materials (N=129)	Nonpov/ Publics. (N=121)	Nonpov/ Instruct. (N=135)	Nonpov/ Minimum (N=113)	Pov/ Computer (N=168)	Pov/ Exper. (N=117)	Pov/ Materials (N=112)	Pov/ Publics. (N=119)	Pov/ Instruct. (N=96)	Pov/ Minimum (N=124)
Male	52.0	52.0	53.5	48.8	48.9	52.2	42.9	41.1	43.8	42.9	55.2	49.2
Female	48.0	48.0	46.5	51.2	51.1	47.8	57.1	57.9	56.2	57.1	44.8	50.8
Unclassified response	0	0	0	0	0	0	0	0.9	0	0	0	0

NOTE: All figures are percentages.

Table 7

Composition of Sample: Distribution by School Program

Program	Schools											
	Nonpov/ Computer (N=179)	Nonpov/ Exper. (N=123)	Nonpov/ Materials (N=129)	Nonpov/ Publics. (N=121)	Nonpov/ Instruct. (N=135)	Nonpov/ Minimum (N=113)	Pov/ Computer (N=168)	Pov/ Exper. (N=107)	Pov/ Materials (N=112)	Pov/ Publics. (N=119)	Pov/ Instruct. (N=96)	Pov/ Minimum (N=124)
General	35.2	50.4	65.9	19.0	53.3	29.2	46.4	37.4	25.0	43.7	44.8	48.4
Academic/ college prep.	48.0	44.7	22.5	46.3	37.8	36.3	37.5	32.7	63.4	38.7	40.6	34.7
Vocational/ technical	15.1	2.4	6.2	14.9	8.9	31.9	11.9	18.7	7.1	12.6	12.5	14.5
Other	1.7	3.3	3.9	23.1	1.5	1.8	3.6	4.7	4.5	5.0	2.1	4.0
Unclassified response	0.6	0.8	3.1	0	0	0.9	1.8	6.5	0	0.8	1.0	0.8

NOTE: Totals may exceed 100% because multiple responses were allowed.
All figures are percentages.

Table 8

Composition of the Sample: Percentage of Handicapped Students

Response to question about handicap	Schools											
	Nonpov/ Computer (N=179)	Nonpov/ Exper. (N=123)	Nonpov/ Materials (N=129)	Nonpov/ Publics. (N=121)	Nonpov/ Instruct. (N=135)	Nonpov/ Minimum (N=113)	Pov/ Computer (N=168)	Pov/ Exper. (N=107)	Pov/ Materials (N=112)	Pov/ Publics. (N=119)	Pov/ Instruct. (N=96)	Pov/ Minimum (N=124)
Yes	1.1	3.3	3.9	2.5	3.7	1.8	1.2	3.7	2.7	9.2	1.0	1.6
No	98.9	96.7	92.2	97.5	96.3	98.2	98.2	95.3	97.3	90.8	99.0	98.4
Unclassified response	0	0	3.9	0	0	0	0.6	0.9	0	0	0	0

NOTE: All figures are percentages.

Table 9

Composition of Full Sample: Distribution by Post-High School Plans (percents)

Plans	Schools											
	Nonpov/ Computer (N=179)	Nonpov/ Exper. (N=123)	Nonpov/ Materials (N=129)	Nonpov/ Publics. (N=121)	Nonpov/ Instruct. (N=135)	Nonpov/ Minimum (N=113)	Pov/ Computer (N=168)	Pov/ Exper. (N=107)	Pov/ Materials (N=112)	Pov/ Publics. (N=119)	Pov/ Instruct. (N=96)	Pov/ Minimum (N=124)
Voc.-tech., business or trade school	14.5	18.7	17.1	17.4	16.3	19.5	41.7	24.3	7.1	16.0	21.9	16.1
Apprenticeship or on-job trng.	11.7	6.5	3.9	11.6	5.9	12.4	9.5	5.6	6.3	5.9	16.7	9.7
2-yr. college	18.4	29.3	4.7	12.4	17.0	17.7	10.7	8.4	10.7	16.0	8.3	22.6
4-yr. college	49.7	56.1	53.5	42.1	50.4	37.2	33.9	44.9	68.8	49.6	45.8	40.3
Immediate job	15.1	13.8	15.5	15.7	17.8	15.9	17.3	17.8	15.2	12.6	19.8	28.2
Armed forces	9.5	9.8	7.0	5.8	8.1	14.2	11.3	16.8	7.1	5.9	5.2	7.3
Homemaker	1.1	0.8	3.9	4.1	3.0	5.3	3.6	1.9	1.8	3.4	2.1	7.3
Undecided	13.4	12.2	13.2	5.8	14.8	8.0	13.1	14.0	10.7	15.1	8.3	16.1
Other	7.3	6.5	7.0	10.7	4.4	5.3	5.4	6.5	3.6	11.8	7.3	10.5
Unclassified response	0	0	3.9	0.8	0	0	0	0.9	0	0	0	0.8

NOTE: Totals may exceed 100% because multiple responses were allowed.
All figures are percentages.

CHAPTER II

THE QUESTIONNAIRE

To assess the effectiveness of different types of career information delivery systems, some variety of measures seemed desirable. Among so many career information resources, it is apparent that different purposes are encompassed. As we pointed out in Chapter III (on the quality of career information resources) of the final report for Study 1, few delivery systems come complete with an explicit statement of goals and objectives. They tend to eschew theory, simply setting out to assemble and present information that is "available." In that chapter we did, however, attempt to infer the underlying purposes or implicit theory represented by various approaches, and we also found considerable differences in scope, content, and so on. Thus, some breadth of coverage in the criterion instrument appeared to be appropriate.

An alternative strategy would have been to develop measures of an ideal of "career awareness," and then try to assess the status of students at schools selected to represent different types of systems (Katz, 1979). Discrepancies from such an ideal, however, might be explained by disputing the definition of the ideal: if delivery systems vary in their purposes and objectives, it might seem unfair to compare them on a single criterion. A broad array of criteria, on the other hand, would allow for differential effects. Thus if a career information delivery system had no effect on an objective it was not designed to accomplish, it might still have the opportunity to show an effect on another objective.

We started with reviews of existing standardized instruments, such as the Career Maturity Inventory (Crites, 1978) and the Assessment of Career Development (The American College Testing Program, 1974). Detailed and specific critiques of these instruments have been published elsewhere (Katz, 1978a, 1978b), and need not be recited here. Quite aside from the major deficiencies described, these published measures are much too long for the circumstances and conditions of this study, in which the "burden" placed on schools is a significant constraint. Either of the two standardized instruments mentioned requires well over two hours for administration. It seemed necessary to keep administration time within the bounds of a single class period, probably 30-45 minutes.

In short, then, an instrument had to be developed that represented a variety of criteria (suitable for different career information delivery systems) and at the same time made efficient use of time. The various parts of the questionnaire are described and explained in the following section.

Content of the Questionnaire

The Questionnaire starts with identification of characteristics of the students: sex, grade, physical handicap, ethnic affiliation, curriculum, and post-secondary school plans. Responses to these questions (#1-6) suggest the representativeness of the sample and also indicate membership

in subgroups to be used in selecting students for interviews and in various analyses.

Question 7 inquires about the frequency with which students have used each of eleven types of resources during the current school year. These responses can be related to the type of resource represented by each school and also to the other variables, thereby permitting analyses based on individuals' reported usage of various resources as well as on school type. Obviously, one must discount the frequency with which students indicate that they used career information resources. People generally tend to make responses they perceive as "socially desirable." Indeed, despite the questionnaire's instructions to consider only "things you've done at this school during this school year," students sometimes included earlier use of resources, as our interviewers learned from follow-up questions. There is no reason to believe, nevertheless, that responses to the various options are differentially inflated. So relative frequencies may be considered valid.

The first part of question 8 asks students to report various career decision-making behaviors they have engaged in on their own, "not because someone told you to." The number of different activities reported is sometimes regarded as an objective. Also of interest are possible relationships between type of activity and the type of resource used: consequently, the second part of question 8 asks students to indicate which of the resources specified in question 7 led to undertaking each activity.

Question 9 asks the students to name an occupation they think they might enter. This introduces a set of 18 questions on the occupation named. The point here is to test the student's knowledge of an occupation about which he should be well informed. A ready criticism of most tests of occupational information is that the questions are dispersed over many occupations which a given student may have no desire or need to know about. Such questions may tap general information, but fail to focus on salient information--that is, information regarded as relevant by a particular student. Depending on a student's values, some occupations may be rejected (quite validly) on the basis of very little information: e.g., more education is required than the student wants to invest in, or the activities are of a nature that the student actively dislikes. A strong turn-off in one respect deemed of great importance may make further information superfluous. Yet such a student may be quite well informed about occupations which pass muster and are under active consideration. This set of questions thus gets at the intensivity of information about a single occupation specified by the student. In other words, it attempts to test information for the optimum condition of salience and relevance. (In the tables, below, scores on this criterion will be designated as Occ. Spec.)

Information sampled under Occ. Spec. includes requirements (items numbered 10, 11, 12), earnings (items #13, #14), other rewards and satisfactions (items #15, #16, #17, #20), working conditions (items #18, #19), and outlook (items #21, #22).

Obviously, a difficulty associated with this type of item is scoring. Since students are responding in respect to an occupation they have themselves specified, a different scoring key is needed for each occupation. To help limit the number of occupations for which scoring keys had to be developed, 50 well-known occupations (frequently chosen) are listed in alphabetical order. The student is instructed to select from this list the occupation "that is most like" the one named. An additional scoring key was developed whenever a student felt that none of the 50 occupations matched the one named, and circled #51 Other. In all, it was necessary to develop scoring keys for over 100 occupations named.

In developing scoring keys, we found that adequate information was not available from a number of states on questions #14 and #22. When communication with SOICC directors, state departments of labor and industry, and other such sources failed to provide satisfactory information about earnings and outlook in states that had been included in the sample, we decided to delete questions #14 and #22 from the scoring and analyses. This left a total of 16 scored items in the section. (Note that question #12 includes 6 items.) Scoring keys for the various occupations specified are available from the authors, but of course some of these keys may change over time.

Another possible disadvantage of this test of intensive knowledge is that some occupations are more visible than others or are otherwise easier to get information about. The task, therefore, may vary somewhat in difficulty according to the occupation designated by the student. This variation would have an effect on school outcomes only if there were a clear bias in occupations designated across schools. No such systematic bias was apparent.

Extensivity of knowledge is not ignored, since this is an explicit objective of many programs and resources. (For example, career information courses often cite broad knowledge about many occupations as one of the goals of instruction.) Thus the next section of the questionnaire asks about such topics as requirements, earnings, working conditions, number of workers, job market, and so on, with sets of three questions applying to five lists of ten occupations each--a total of 15 items. (The 50 occupations included are the same as those listed for the Occ. Spec. section.) This arrangement is quite efficient in terms of number of occupations and range of information covered in a short time. Scores on these questions about general occupational information (#23-37) are labeled Gen. Occ. in the tables below. Scoring keys for Gen. Occ. and the remaining sections of the questionnaire appear in Appendix A .

It is often thought that an important component of information in any field is knowledge of the vocabulary of that field. Since many occupational information resources depend on comprehension of written or spoken words for communication, it seemed desirable to test knowledge of meanings of words often used in such resources. The next section of the questionnaire, therefore, includes eight items (#38-40, #43-45, #48, #49) about the meanings of commonly used terms such as co-worker, work environment, and job tenure. It seemed likely, however, that knowledge of

occupational vocabulary (Occ. Voc. in future tables) might be largely a function of general vocabulary knowledge. To test this assumption, six vocabulary items (#41, #42, #46, #47, #50, #51) having no particular connection with occupational information are embedded in the section: these are labeled Pure Voc., which--as a quickly measured surrogate for verbal comprehension--might serve as a co-variate in the analyses. The fourteen vocabulary items taken together are called Total Vocab. in the tables.

Many resources used in developing career awareness refer to individual appraisal, including such characteristics as skills, aptitudes, interests, and values. Indeed, students are often asked to describe or rate themselves or engage in other appraisal activities in respect to these four types of attributes and to link their ratings to various (presumably analagous) characteristics of occupations. If they can not distinguish, for example, between aptitudes and interests, they are liable to commit such common fallacies as thinking that their scores on an interest inventory indicate that they have the aptitudes or skills which are said to be required or recommended for a given occupation. The next section, therefore, taps their ability to differentiate between these four domains by recognizing which domain a descriptive statement applies to. The seven items comprising this scale (#52-58) are called SAIV in the tables.

Many resources provide less than comprehensive information about wages and salaries. Sometimes they give beginning salaries, sometimes medians, and so on. Sometimes salary is given as an average, sometimes as a range. Sometimes breakdowns are made by geographic regions or according to jobs in industry or government. A student who has developed competence in understanding the partial information that various resources provide will not make the mistake of comparing an average of beginning salaries in one occupation with a range of median salaries in another. Thus the next section presents a short description of salaries in an occupation. The five lines are lettered A through E, and the student indicates which line or lines give information about a designated component of salaries: beginning, average, top, and range. Scores on these four items (#59-62) are labeled Salary.

Finally, a competency of great concern is the rational interpretation and use of information that is relevant to one's values. In the last section of the questionnaire, students are given definitions of four "values that some people might consider important in choosing an occupation." They are asked to weight the importance of each value on a scale of 0 to 8, representing a range from no importance to the "greatest" importance. They enter the weight for each value after its definition. They are then given contrasting information about the opportunities offered by each job in a pair for satisfactions of the same four values. The jobs in each pair are defined as "very much alike" in all other respects. The task is to compare the jobs within each pair and indicate a preference for one or the other.

Scoring these items had to take account of the values weights put in by each student. The correct response would be consistent both with the

individual's weights and with the descriptions of the occupations. The complexity of this section and the time required for each item made it necessary to restrict the number of items in this section, labeled Values, to only three (#63-65).

The last page of the questionnaire asks students to indicate whether they agree to be interviewed about their career choices. The main purpose of the interviews, with a small subset of students at each school, was to probe into distinctive features of career decision-making. Follow-up questions were to be asked about the kinds of resources that led to various activities noted in the questionnaire; the components of a school's total career information program that were found most helpful; and the elements of the program that were least helpful or caused problems. Students were also to be asked about the kinds of rewards and satisfactions they would like to get from work and the degree to which their first-choice occupation provides opportunities for such rewards and satisfactions. Obviously, much discretion had to be left to the interviewer, with freedom to pursue any productive path that appeared.

Item and Scale Characteristics

Statistical analyses were completed to describe various characteristics of the items and the scales constituting the questionnaire. These characteristics include the difficulty of each item (that is, the proportion of students answering it correctly); the relationship of each item to the scale of which it is a member and to the other scales; the mean and standard deviation of scores on each scale; an index of the reliability of each scale (coefficient alpha); and the intercorrelations of the scales.

Except as indicated, all item and scale analyses represent the total number of students to whom the questionnaire was administered (N=1526). Later analyses of findings, for which complete data were required, involve a somewhat smaller number (N=1381). Item and scale statistics for the curtailed group (obviously tending to be truncated at the lower end) show slightly higher proportions answering each item correctly and slightly lower item-scale correlations (because of the restriction in range). These minor differences in absolute magnitude do not, however, affect relative magnitudes across items.

Item Difficulties, Scale Means and Standard Deviations

The middle column of Table 10 shows graphically and numerically the proportion of the total group (N=1526) who answered each item correctly. Table 11 shows scale means and standard deviations.

Occ. Spec. It is clear that the items composing Occ. Spec. were generally of middle difficulty, which is the desideratum. The most difficult item was evidently question #13 on earnings (national average) for the occupation specified by the student, answered correctly by only

33 percent. The easiest item was evidently the fifth part of question #12 on level of finger/hand dexterity required, answered correctly by 68 percent. The proportion of correct answers for the other items ranged from 42 percent to 62 percent, with 50 percent or more answering 11 of the 16 items correctly. The mean score for the 16 items constituting the Occ. Spec. scale was 8.62, with a standard deviation of 3.34. Guessing and its effects on scores were minimized by three conditions: there was no pressure on students; the number of options ranged from 4 to 8; and "I don't know" was always included as one of the options.

Gen. Occ. Questions tapping general occupational information were, on the whole, somewhat more difficult. This is not surprising, since students would be expected to be better informed about an occupation they think they might enter than about the broader universe of occupations. The most difficult items were #32 (identifying from a list of 10 occupations the 3 with the fewest workers), answered correctly by only 1 percent; #28 (identifying from another list of 10 occupations the 3 with the greatest number of workers), answered correctly by only 2 percent; and #29 (identifying 2 occupations that require post-baccalaureate education), answered correctly by 2 percent. The easiest item was #26 (identifying 4 occupations that require a high school diploma), answered correctly by 78 percent. Fewer than half of the 15 items were in the middle range of difficulty. The mean score for the 15 items comprising the Gen. Occ. scale was 4.57, with a standard deviation of 2.47. Again, no allowance for guessing is necessary, since there were 10 options for each item, multiple responses were required for all but 2 items, and the item was scored correct only if all responses were correct.

Vocabulary. Vocabulary items tended to be easy, with no clear distinction between occupational and other vocabulary items. The most difficult item was #49, job tenure, for which only 32 percent chose the correct option. The easiest item was #45, supervisor, answered correctly by 91 percent. These conventional four-option items are likely to induce guessing: therefore, students could be presumed to answer 25 percent of the items correctly by chance. Thus the midpoint between a chance score of 3.5 and the maximum of 14 for Total Vocab. is 8.75, which was slightly exceeded by the actual mean of 9.41. The standard deviation was 3.46.

SAIV. Two questions about Skills, Aptitudes, Interests, Values were answered correctly by more than half the students: question #52 (type at least 40 words per minute) was identified correctly as a skill by 82 percent of the students, and question #58 (rather spend her spare time repairing a car than baking a cake) was identified correctly as indicating an interest by 65 percent. Only 38 percent identified question #53 (help others) as referring to a value, and almost half the students answered the remaining four questions correctly.

The mean score of the 7 items comprising this scale was 3.70, with a standard deviation of 1.78. If guessing is taken into account for these four-option items, this mean can be compared with 4.38, the midpoint between a chance score of 1.75 and the maximum score of 7.

Salaries. Question #59 on beginning salaries was evidently the easiest one, answered correctly by 75 percent. Almost half the students gave correct answers to #60 and #61, on average and top salaries. But only 3 percent answered #62, on salary range, correctly. (It required students to integrate two pieces of information--on low salaries and high salaries.) The surprising difficulty of this item pulled the mean score for this four-item scale down to 1.75, with a standard deviation of 1.12.

Values. The three items comprising the Values scale involved virtually identical operations with variations in data. The items are quite complex, however, involving a considerable amount of reading as well as two operations: the second operation, choosing the job, should of course be dependent on the first operation, weighting the importance of four values. The proportions of students answering these three items correctly were 46 percent, 39 percent, and 38 percent, respectively. The mean score was 1.24, with a standard deviation of .95. Since random responses might result in correct answers to 20 percent of these five-option items, a mean score of 1.80 would represent the midpoint between a "chance" score and a perfect score.

It should be noted that these three complex items came at the end of a rather lengthy questionnaire. Administrators observed that a number of students failed to complete them or completed them hastily amidst the confusions attendant on the end of a class period--bell ringing, papers being passed in, students walking about and preparing to leave. These circumstances probably contributed to the relatively low level of the scores.

In general, looking across all items for all scales, one can say that the measures were of middle difficulty, which is the desirable condition for maximum dispersion of scores and reliability. Items that were answered correctly by very small proportions of students have no evident flaws; these items will be discussed later in the chapters on findings and implications.

Relationships between Items and Scales

Correlations (r biserials) were computed between each item and the various scales. This calculation is to confirm the coherence of the scales, that is, the degree to which each item is appropriately incorporated in one scale rather than another. The matrix of intercorrelations is bulky and perusal of it is tedious. Rather than include the entire matrix in this report, the correlation of each item with its own scale (with the item score excluded from its own scale score) is shown in the last column of Table 10, under the heading r_{bis}. In general, items correlated higher with their own scale than with any other scale; exceptions (which usually involve only the second decimal) are reported below.

Occ. Spec. Correlations between items and scale fluctuate around .4, the lowest being .27 and the highest .52. The highest correlation for each item was with its own scale in all instances except for #18 (special problems), which had a slightly higher correlation with Occ. Voc. Correlations between these items and other scales tend to be remarkably low, indicating the distinctiveness of Occ. Spec.

Gen. Occ. As would be expected, the three items which were answered correctly by only 1 or 2 percent of the students (#28, #29, #32) tended to have very low r biserials. Of the remaining items, three r biserials were in the .20's, four were in the .30's, and five were in the .40's. Items #28, #34, and #35 had about equal or slightly higher correlations with Occ. Voc.

Vocabulary. The biserials for the vocabulary items tended to be high, without much distinction between Occ. Voc. and Pure Voc. They ranged from .34 for #46 (artisan) to .93 for #45 (supervisor), with most of them above .7. No Vocabulary item was correlated as high with any other scale as with Occ. Voc. and Pure Voc.

SAIV. Biserials between these seven items and their scale ranged from .23 to .51, with most of them fluctuating around .4. Relationships with other scales were slightly higher for #52 (with Gen. Occ. and Occ. Voc.), #53 (with Occ. Voc.), and #54 (with Gen. Occ.).

Salaries. The biserials for items #59, #60, and #61 were .63, .52, and .55, respectively. Item #62, which was answered correctly by only 3 percent of the students, had a biserial of .29. Correlations of these items with other scales were quite low.

Values. Even though the operations for these three items were identical, the biserials tended to be quite low (.19, .21, and .21). Items #63 and #65 had slightly higher correlations with most of the other scales. As explained elsewhere, the number of students who did not reach these three items (about 10 percent of those who started), along with the correlation and reliability data, led to the decision to drop Values from the regression analysis in order to increase the number of cases with complete data.

Reliabilities of Scales

Reliability coefficients for tests are largely a function of the number of items composing a scale (along with difficulty and other characteristics). Since these scales were all quite short, it was not expected that their reliability coefficients would be high compared to tests used in assessing individual differences. A lower level of reliability is quite satisfactory, however, for analyzing differences between group means. Only the three-item Values scale reliability appears too low for this purpose.

Coefficient alpha was computed for each of the scales and is reported, along with number of items, mean score, and standard deviation, in Table 11.

Intercorrelations of the Scales

All item and scale characteristics to this point have been reported for the total number of students to whom the questionnaire was administered (N=1526). For scale intercorrelations and regression analyses, however, only students with complete data were considered. As explained elsewhere, cases were dropped for various other omissions, such as responses to questions on grade or sex, as well as omissions of all the items in a scale. Since Values was the last scale of the questionnaire, it produced the greatest number of omissions--about 10 percent of the entire group. Since this scale was low in reliability and made no significant contribution to the analyses, it seemed desirable to trade items for cases--that is, drop the Values scale and retain the people who had omitted it but otherwise had complete data. Thus, the table of scale intercorrelations (Table 12), like the regression analyses reported later, are based on a total of 1381 cases.

As indicated above, Job Voc. has a rather high correlation with Pure Voc. (r=.64). The high correlations of these two scales with Total Voc. is, of course, spurious, since Total Voc. includes the other two scales. Otherwise, the intercorrelations tend to be low to moderate, ranging from .18 (Occ. Spec. and Salaries) to .54 (Gen. Occ. and Job Vocab.). In general, then, the intercorrelations are sufficiently low to indicate that (aside from the substantially correlated Job Voc. and Pure Voc.) the scales provide independent information.

Summary

The content of the questionnaire was designed to cover a broad array of criteria such that a variety of resources, differing in purposes, objectives, scope, content, and so on, would have an opportunity to demonstrate distinctive effects--if any. This broad coverage had to be accomplished in a questionnaire that could be administered in a single class period. The rationale for each scale, or set of items, has been explained and the content described.

From statistical analyses of item and scale characteristics, it can be concluded that the questionnaire was, in general, neither too easy nor too difficult; that there was a desirable dispersion of scores on each scale; that items were appropriately placed in their scales; that (except for Values) the scales, despite their brevity, were sufficiently reliable for group comparisons; and that the scales provided independent and distinctive information.

Table 10

Item Statistics: Proportion Correct and r biserials (N=1526)

Item No.	Content	Correct responses (%)	r_{bis}
	OCCUPATION SPECIFIED		
10.	Amount of education required	52	.36
11.	Special requirements (license, etc.)	42	.31
12.	Oral communication skill required	62	.52
12.	Written communication skill required	55	.49
12.	Math ability required	60	.41
12.	Mechanical ability required	55	.31
12.	Finger/hand dexterity required	68	.42
12.	Clerical speed required	49	.31
13.	Salary (national average)	33	.35
14.	Salary (state average)	NOT SCORED	
15.	Opportunity to help others	59	.42
16.	Degree of leadership involved	47	.39
17.	Prestige of occupation	45	.30
18.	Special problems	60	.30
19.	Amt. of supervision received	58	.41
20.	Amt. of security provided	55	.41
21.	National employment outlook	61	.27
22.	Local employment outlook	NOT SCORED	
	GENERAL OCCUPATIONAL INFORMATION		
23.	3 occs. req. 2 or more yrs. college	43	.41
24.	2 occs. with salary $6-11,000	24	.23
25.	1 occ. with 9-5 schedule	12	.22
26.	4 occs. req. h.s. diploma	78	.49
27.	2 occs. w. nat'l earnings $25K	49	.38
28.	3 occs. w. many workers	2	.18
29.	2 occs. req. more than 4 yrs. college	2	.14
30.	2 occs. enterable thru apprentics.	17	.29
31.	3 occs. req. unusual leadership	27	.37
32.	3 occs. w. fewest workers	1	.06
33.	2 occs. req. tests of phys. fitness	44	.39
34.	2 occs. w. keen competition	56	.44
35.	3 occs. req. a license	41	.43
36.	1 occ. w. no independ.decisions	24	.37
37.	2 occs. req. at least 4 yrs. college	38	.47

Table 10 (continued)

Item No.	Content	Correct responses (%)	r_{bis}
	VOCABULARY		
38.	Co-worker	83	.69
39.	Graduate education	46	.50
40.	Work environment	82	.79
41.	Attire	75	.80
42.	Zeal	73	.71
43.	Entry-level requirements	81	.74
44.	Job security	72	.71
45.	Supervisor	91	.93
46.	Artisan	57	.34
47.	Gratify	70	.74
48.	Academic prerequisite	79	.78
49.	Job tenure	32	.46
50.	Crucial	66	.62
51.	Impediment	41	.53
	SKILLS, APTITUDES, INTERESTS, VALUES		
52.	Type at least 40 w.p.m.	82	.51
53.	Work where he can help others	38	.38
54.	Can speak 2 foreign langs.	46	.23
55.	Enjoys persuading people to buy	45	.38
56.	Quick at learning math	48	.42
57.	Wants to make a lot of money	46	.34
58.	She'd rather fix a car than bake	65	.47
	SALARIES		
59.	Beginning salaries	75	.63
60.	Average salaries	48	.52
61.	Top salaries	49	.55
62.	Salary range	3	.29
	VALUES		
63.	Discriminate bet. 2 options	46	.19
64.	Discriminate bet. 2 options	39	.21
65.	Discriminate bet. 2 options	38	.21

Table 11

Summary Statistics for Six Scales (N=1526)

Scale	No. Items	Mean	S.D.	alpha
Occ. Spec.	16	8.62	3.34	.69
Gen. Occ.	15	4.57	2.47	.63
Total Vocab.	14	9.41	3.46	.84
SAIV	7	3.70	1.78	.58
Salaries	4	1.75	1.12	.57
Values	3	1.24	.95	.29

Table 12

Intercorrelations of Scales (N = 1381)

	OCC.SPEC.	GEN.OCC.	SAIV	SALARIES	JOB VOC.	PURE VOC.
GEN.OCC.	0.2979					
SAIV	0.2206	0.3636				
SALARIES	0.1802	0.2899	0.2950			
JOB.VOC.	0.3398	0.5407	0.4298	0.3211		
PURE VOC.	0.3216	0.4831	0.3934	0.2782	0.6369	
TOTAL VOCAB.	0.3658	0.5664	0.4553	0.3317	0.9083	0.9009

CHAPTER III

FINDINGS

This chapter concerns the findings from the analysis of the data collected in the questionnaires. The findings from the interviews and observations will be presented separately in Chapter IV.

Analysis of the 6x2 Design

The design of the study called for one school of each of the six types to be selected from a poverty area (as defined for the determination of Stratum 1 for Study 1) and one from a nonpoverty area (Stratum 3 of Study 1). This plan results in a 6x2 design with six types and two levels of poverty. Stratum 2 (non-metropolitan) was dropped because enrollments in many of the schools were too small to provide sufficient representation of each type of curriculum with equal numbers of each sex.

Tables 13-18 show the outcome of the analysis for each of the six subtests as described in the previous chapter: the 16 questions about an occupation specified by students as one they were thinking of choosing (Occ. Spec.--Table 13); 15 questions about general occupational information (Gen. Occ.--Table 14); 14 vocabulary questions, including six general vocabulary and eight occupational vocabulary (Total Vocab.--Table 15); 7 questions on differentiating skills, aptitudes, interests, and values (SAIV--Table 16); 4 questions on understanding a brief paragraph of information about salaries (Salaries--Table 17); and three questions seeing whether students could choose between two imaginary occupations on the basis of the occupations' capacity to satisfy the students' values (Values--Table 18). Although the values subtest did not achieve satisfactory reliability, this outcome does not affect the discussion that follows. Therefore the values score has been included in all but the regression analyses.

To interpret the analysis of variance, look in the column labeled "Probability of a larger F." If this figure is .05 or less, the finding is considered statistically significant at the .05 level--that is, there are only 5 (or fewer) chances in 100 that this result occurred by chance. (If the figure is .01 or less, the results are considered highly significant in the statistical sense; such a result would be a chance occurrence in fewer than one out of 100 instances.) Thus, in Table 13, the differences in type ($p = .0078$) and the interaction between type and poverty level ($p = .0037$) are both highly significant statistically. However, the differences between levels of poverty ($p = .1741$) are not statistically significant.

(An important caution is that statistical significance does not necessarily imply practical significance. When the number of degrees of

freedom is as large as in the present analyses, differences too small to be of practical concern are likely to show up as statistically significant.)

If we take the results in Table 13 without further probing, we would conclude that the most "effective" treatment was use of materials or minimum resources or publications.

Indeed the mean for materials was above the total grand mean on all six scales. And if the total means for types (the "Total" row on Tables 13-18) are placed in rank order, Material ranks first for two out of the six scales, ties for first on a third scale, ties for second on a fourth, and ranks third on the remaining two. The total for None tells a similar story: one first place, two ties for first place, two second places, and one fourth place. Instruction falls below the grand mean on Occ. Spec., but is above on all other scales.

The same examination would suggest that the least effective treatments are Experiential and Publications. The total mean for Experiential never gets close to the grand mean, and for Publications it exceeds the grand mean only in Occ. Spec.

Examining the interactions between type and poverty in more specific detail highlights the dominance or weakness of individual schools. For example, we note that Poverty/Material is invariably above the grand mean (in contrast to its nonpoverty counterpart), whereas Nonpoverty/Publications is invariably well below the grand mean (while Poverty/Publications is above the grand mean or close to it). On the other hand, the good showing of the minimum type is due almost wholly to the Nonpoverty school. Poverty/Experiential is below the grand mean on all scales, whereas Nonpoverty/Experiential is either above the mean or close to it.

These differences appear to be attributable to school characteristics because the differences seem quite unsystematic. One could see why the Poverty/ Experiential school might make a dismal showing if it were an inner city institution with a large number of disadvantaged students enrolled in work-experience programs. But how can one explain the dominance of the Poverty/Materials school? Or the poor showing of the Nonpoverty/ Publications one? Or the fine scores achieved by the Nonpoverty/Minimum?

It seems clear that the findings shown in Tables 13-18 cannot be accepted without further analysis. There are several avenues for exploration.

1. The designation of poverty and nonpoverty was determined by the way the three strata were defined for Study 1, the survey of schools that the 12 specimens for Study 2 were selected from. The poverty stratum for Study 1 was based on 1970 Census information. Data for Study 2 were collected in the spring of 1981, and a whole decade of changes that included school busing could have altered the poverty status of schools in the stratum.

2. The means that appear in Tables 13-18 are uncorrected for independent variables. That is, the scores on the scales include any head start a school might have owing to students with above-average reading ability or favorable ethnic or sexual enrollment if race or sex happens to be correlated with good scores. These effects can be controlled statistically to some extent as described later.

3. If the effects described above seem to be attributable to school differences rather than differences in type, we can seek the cause in the student interviews and observations conducted by the research teams that visited the schools.

Reassignment of Poverty Levels

Since the poverty status of a school might have changed, we called the schools to find out what proportion of their students had been participating in the free and reduced-cost lunch programs when we visited the school. If we assume that this measure of poverty agrees reasonably well with the Census' measure, which determined poverty level in Study 1, we find that some dramatic changes have indeed occurred. The results are shown in Table 19.

As we see from the table, using 12 percent or more as the determinant of poverty causes two schools originally classified as poverty to be moved to nonpoverty status and five schools to move from nonpoverty to poverty. The new alignment places three schools in the nonpoverty group and nine in the poverty group.

No significant main poverty effects, however, appear with this new alignment. Poverty effects for all six scales were subjected to *t*-tests using weighted means and pooled variances derived from the data in Tables 13-18. The *t*'s were very low. It does not seem likely that any alignment of these particular schools based on realistic measures of poverty would have produced main poverty effects. For instance, if 15 percent or above on free lunch were taken as the determinant of poverty, only one School (No. 5) would return to nonpoverty status. If the 20 percent level were used, School 8, the highest scoring school, would still be classified as poverty, and School 2, a relatively low scorer, would be classified as nonpoverty. For these reasons we dropped poverty from the analysis.

We are not saying that there was no effect of poverty level on the scores of individual students. In this study, the school, not the student, was the unit measured. We have no data on the poverty level of individual students.

Rank Order of Schools

To examine the hypothesis that the differences revealed in the analysis of variance were really due to school effects rather than type effects, we rank ordered the schools by their mean scores on each of the scales. The school with the highest mean score was given the rank of 1 for that scale, the next highest the rank of 2, and so on. The results are presented in Table 20.

Table 20 shows considerable consistency in the rank orderings. School 8 (Poverty/Materials) ranks first on five scales and second on the sixth. School 5 (Nonpoverty/Minimum) ranks first on one scale, second on two, third on two, and fourth on the remaining scale. On the other hand, two schools--numbers 3 and 7--rank consistently eleventh or twelfth. Number 7 (Poverty/Experiential) is in the poverty group; number 3 (Nonpoverty/Publications) was originally nonpoverty, but would have been classified as poverty on the basis of percentage of students participating in the free lunch program. In short, the two highest ranked schools and the two lowest ranked all came from the poverty group as determined by the school lunch criterion.

The consistency of these rank orderings across the six scales is highly significant in the statistical sense. The data in Table 20 were tested by the Friedman Two-Way Analysis of Variance by Ranks (Siegel, 1956, pp. 166-172). The probability of such consistency occurring by chance was very, very small--less than one chance in 100 instances. The correlations of the rank orderings on the six scales were also high, as shown on Table 21. They ranged from .503 for the rank order correlation between the Occ. Spec. and Total Vocab. scales to .930 between the Gen. Occ. and Total Vocab. scales.

The test of significance on the rank orderings and the correlations should not be construed as indicating a significant difference between schools with regard to their mean scores on the test scales. The significance tests apply to rank orderings, not to mean scores. The hypothesis that there were significant differences between schools on their mean scores was not tested for reasons that will become evident in the later discussion of regression analyses. Very likely the schools do differ significantly (in the statistical sense) on their mean scores. But it is fruitless to pursue this avenue without first looking at the effects of certain conditions that are unrelated to the delivery of career information--such variables as sex, race, grade, postsecondary plans, and general intellectual background.

Career Decision-Making Activities

Before examining the conditions at the schools that may affect the acquisition of career information, we looked at the ways schools differed on changes in career plans and number of career decision-making activities their students had engaged in. Question 8 asked students to indicate

whether or not they had changed their minds about aspiring to an occupation, had considered previously unthought-of occupations, had written for more information about an occupation, and so on. Eleven such "activities" were listed for students to respond to. (The second part of Question 8, discussed later, asked students to indicate which career information resource had prompted them to engage in the listed activity.)

The percentage of students that had not participated in each activity in each of the 12 schools is shown in Table 22. The responses range from 16.1 percent of students in the Poverty/Minimum school who indicated that they had never talked to parents about an occupation to 84.4 percent of students in the Poverty/Instruction school who had never written for more information. In general, across all the schools, it is evident that students do tend to talk to their parents about occupations and do not tend to write for information.

The schools can be rank ordered on the basis of the career decision-making activities their students undertook. The number of positive responses to Question 8A can be summed for a school and then divided by the number of respondents at that school. The quotient is the number of activities per student at that school. If the schools are then ranked, as shown in Table 23, by these quotients, we see an ordering strikingly similar to that by mean scores on the test scales as shown in Table 20. School 8 (Poverty/Materials) again takes first place, and Schools 7 and 3 again rank eleventh and twelfth. The correlation between the rank ordering on activities and the rank ordering on test scales is shown in Table 24. They range from .519 (Gen. Occ. versus activities) to .890 (Occ. Spec. versus activities). These are quite high positive correlations. We must stress again, however, that these are correlations of the rank orders, not correlations of scale scores with activities. Nevertheless, the conclusion seems warranted that schools whose students score best on the test scales also have students that think, read, and talk about occupational choice, and engage in other career-decision activities.

Correlations of Test Scales with Other Variables

The question now arises, to what extent are the apparent differences between the schools' scores due to the differential effects of use of various career information delivery systems as opposed to the effects of such variables as race, sex, general intelligence of students, the ambience of the school, and the like. One way to approach this question is to see how well outcomes on each of the six test scales correlate with use of various occupational information resources as well as with the other variables of interest.

The questionnaire provides a way for making the correlations. Question 7 asked students to indicate the frequency with which they had used certain information resources. The resources are not exactly the same as the types on the basis of which the 12 specimen schools were selected. For instance, the type "Materials" is comprehended by items C,

E, and F in Question 7 (film, filmstrip, tape, videotape; microfiche; sorting cards). The "experience" type is comprehended by G, H, and I (school-arranged work experience, career day or career fair, school arranged plant tour). Although the types are decomposed into their elements in Question 7, all types are represented except minimum resources. In addition, Questions 1 - 6 collected data on sex, grade, race, curriculum, and plans after high school. Finally, six of the 14 questions constituting the test of vocabulary (Items 38-51) concerned general rather than occupational vocabulary and could be used as a proxy for reading ability. (These items are subsumed under the heading Pure Voc. in the tables that follow.)

The intercorrelations of the scales across all schools has already been reported in Chapter II. Tables 25-36 show the correlation matrices for each of the 12 schools on all the variables collected by the questionnaires. The correlations from school to school are generally similar. We note quite high correlations where we would expect them--positive between the Vocabulary scales and negative between the grade variables. The correlations are, however, by no means uniform across the 12 schools. For example, the correlation between Pure Voc. and Salaries is .51 at the Poverty/Publications school, whereas it is only .01 at the Poverty/Instruction school; the correlation between Pure Voc. and Values is generally low (and in one instance negative), but at the Poverty/Computer School it reached .33.

The correlations between use of the 10 resources (Reading, Guidance, Filmtape, Computer, Microfiche, Sorting Cards, Work Experience, Career Days, Plant Tours, and Coursework in Career Planning) and the six test scales tend to be quite modest and often negative. At the Nonpoverty/Publications school, however, three positive correlations in excess of .30 appear: Guidance with Gen. Occ. (.37), Career Days with Gen. Occ. (.32), and Career Days with Job Voc. (.40). Other high correlations are negative. At the Nonpoverty/Minimum School, Guidance and Sorting Cards were negatively correlated with Salaries (-.35 and -.32, respectively). At the Poverty/Experience School Reading correlated negatively with Salaries (-.33) and Sorting Cards with Occ. Spec. (-.33). And at the Nonpoverty/Experience school, Work Experience was negatively correlated with Job Voc. at a comparatively high level (-.34).

Relatively high correlations also appear sporadically between Race, Sex, or Plans and one or more of the six scales. For example, at the Poverty/Experience school (Table 32), Race was negatively correlated with Occ. Spec. (-.34), Gen. Occ. (-.49), SAIV (-.36), and Job Voc. (-.55) at pronounced levels. (Since Whites were coded for computer input as 0 and non-Whites as 1, the negative correlation means that Whites achieved better scores than non-Whites.) In Table 30 we note that Sex was correlated (.33) with Occ. Spec.--females outperformed males on that variable at the Nonpoverty/Minimum school.

These correlation matrices are interesting, but it is hard to find in them a consistent relationship across schools between resources and

the six scales. Two variables with a moderately high positive correlation at one school may have a moderately high negative correlation at another. Nor are the relationships between Race or Sex and the other variables consistent across schools. Tables 25-36 reinforce the impression that differences between schools are more consistent than differences between resources or differences associated with race or sex.

Regression Analyses

When sufficient data are available on variables that contribute to a certain outcome such as a test score, the statistical procedure of regression allows experimenters to determine how much each of the variables contributed to the outcome and (in effect) to "remove" selected variables and see the extent to which the outcome was attributable to the remaining variables. In the present study, we are interested in finding out the extent to which the scores on the test scales were related to exposure to career resources as distinct from relationships with such other variables as sex, race, grade, future plans, and general academic ability. If use of a particular resource, such as reading or talking with counselors, markedly increased students' knowledge of occupations as scored by the test scales, regression should be able to tease out this result. If the main contributor to the scale score happened to be one of the other variables--say, race or general academic ability or some other characteristic correlated with them--regression should be able to determine this, too.

Since the assumption was dubious that there were major differences between types (that is, students often may have used resources other than the type that characterized their school), we decided to pool all the students and see if we could find differences in the effect of use of individual resources, regardless of type, when the effects of other variables had been removed.

Question 7 asked students the frequency with which they had used each of 11 different sources of occupational information: (a) reading materials; (b) guidance counselor or career information specialist; (c) film, filmstrip, tape, videotape; (d) computer system; (e) microfiche (such as VIEW); (f) sorting cards (needlesort or keysort); (g) school-arranged work experience; (h) career day or career fair; (i) school-arranged plant tour; (j) career planning course or unit in a course; and (k) some other resource. The first ten of these were considered as treatment variables in the regression analysis. Students indicated on a four-point scale the frequency with which they had used each resource. Responses to questions 1-6 gave us data on other variables, such as grade, sex, and race. Finally, the six vocabulary questions comprising Pure Voc. gave us some measure of reading ability.

All of these variables are the same as those that appear in the correlation matrices presented in Tables 25-36 for the 12 schools. For

the regression analysis, however, all the students have been treated as one large sample.

Sample size for regressions. Small numbers of students had made no response to certain items on the questionnaire or had made unusable responses (such as circling all possible responses on Question 7). If too many students were dropped owing to unusable or missing data, the composition of the sample might be distorted because students who do not respond tend to be low scorers.

In order to keep the sample as nearly complete as possible, we decided to eliminate the Values scale from the analysis. Consisting of only three items (Questions 63-65), Values had the lowest reliability of the six scales. Furthermore, coming last, these items had the lowest response rate; 154 of the 1,526 respondents failed to answer any of the three items.

Eliminating Values left us with 1,381 students for the regressions. Table 37 shows (a) the total number of students in each category for the analysis for whom unusable data existed and (b) the number of students actually dropped. The difference in numbers in the last two columns comes about because the number in the category is absolute whereas the number dropped is cumulative. Thus for "Category Q2--Grade," there were 14 students in the total sample who did not classify themselves in grades 10, 11, or 12; but six of these had already been dropped because of missing or ambiguous responses in the three previous categories, leaving eight who were dropped because of the missing data in the grade category. In all, 145 students were dropped from all categories.

Regression results. Tables 38-42 show the results of the regression of the five remaining test scales on selected explanatory variables. Table 43 shows how variables were coded for computer input. The coding explains why some regression weights and *t*-statistics (e.g., "Plans") are negative.

Tables 38-42 may be understood as follows: the multiple correlation shows how well all the explanatory variables--those in the tables and others whose contribution did not reach significance--predicted the score on the scale. The closer the multiple correlation is to 1.0, the greater the predictive value of the set of explanatory variables. The multiple correlations range from .31 on the Salaries scale to .66 on the Job Vocabulary scale.

In each table, the six control variables are listed first regardless of their statistical significance with respect to the scale score. The control variables are Sex, Grade 1 (10th and 12th versus 11th), Grade 2 (10th and 11th versus 12th), Race (White, non-White), Plans (4-year college or other), and Pure Vocabulary (six vocabulary items embedded among test items 38-51). Below the control variables appear all the "treatment" variables (as recorded in Question 7A-J) whose contribution

to the multiple correlation was statistically significant or highly significant as determined by a t-test.

Some persons are confused by statistical significance as opposed to practical importance. Statistical significance concerns the likelihood that an outcome occurred by chance. By convention, an outcome that would have occurred by chance fewer than five times out of 100 instances is called significant; if the likelihood is one time or less out of 100, the result is, by convention, considered highly significant. In large samples, a difference that is so small as to be of negligible importance in practical terms may be highly significant in statistical terms--that is, significant in the sense that it probably did not happen by chance.

The expression two-tailed test means that the likelihood of either a positive or negative difference is examined. For instance, variable A might be (statistically) significantly larger or smaller than variable B. If our hypothesis had been only that variable A was larger (say) than B, we would have applied a one-tailed test.

What do Tables 38-42 reveal? In every instance we note that Pure Vocabulary--a variable that is not dependent on the outcome of students' exposure to the career information treatments--is statistically highly significant. We note further that the standard regression weight for Pure Vocabulary (an indication of how much of the multiple correlation is due to Pure Vocabulary) is very much higher than the regression weight for any other variable, control or treatment.

We note also that in all tables except 40 (Skills, Aptitudes, Interests, and Values), the variable Plans has a highly significant but negative contribution to the multiple correlation; in Table 40 the level is significant but not highly significant. We see from Table 43, which shows how the variables were coded for computer analysis, that plans to go to a four-year college were coded 0, and plans to do anything else after graduation from high school were coded 1. Consequently, we conclude from the negative regression weight that students who plan to go to a four-year college tend to score higher than those who do not. Since this group probably includes the academically more able students, this result is not surprising.

If Pure Vocabulary and Plans account for most of the multiple correlation on every scale, there obviously is not much remaining to be accounted for by the treatment variables or, for that matter, by Sex, Race, or Grade among the control variables. We note that Courses (or units) in career planning achieved high significance with respect to scores on the Occ. Spec. scale (Table 38) and the SAIV scale (Table 40). Interaction with guidance counselors had a significant positive connection with the Gen. Occ. scale (Table 39) and a highly significant one with the Job Voc. scale (Table 42). All other statistically or highly significant relationships were negative. These were Sorting cards with Gen. Occ. (Table 39), SAIV (Table 40), Salaries (Table 41), and Job Voc. (Table 42);

Work Experience with SAIV (Table 40); Film/tape with Gen. Occ. (Table 39) and Job Voc. (Table 42); and Computers with Salaries (Table 41).

These relationships are summarized in Table 44. The nomenclature has been changed slightly for clarity in Table 44; Sex is called "Female Sex" and Plans is called "Plans for 4-year college." Also, all the treatment variables are listed. Neg. in the table means "negative"--that is, students who used sorting cards tended to score significantly (in the statistical sense) lower on the scales where asterisks appear.

The negative effects should not be construed as indications that the resources are of no value or that they have a direct effect opposite from the intended one. For example, sorting cards contain almost no occupational information of the kind tested by the questionnaire. Their function is to enable students to identify sets of occupations that meet the students' specifications with respect to several different criteria simultaneously. Getting information about the occupations in the sets involves using some other resource. Therefore sorting cards could stimulate students to seek information of the sort tested, but not to provide it directly. The problem may be that those who use sorting cards may tend not to use other resources that would give them the kind of information asked about. The negative relationship between Computers and Salaries is possibly due to the way salary information is rendered in the Guidance Information System (GIS), the computer system used in the two computer specimen schools. GIS gives only the most common salary (i.e., something like the average or median), whereas the questionnaire asked students to extract information from a paragraph indicating starting salaries, average salaries, top salaries, and salary range.

As to films and tapes, there are thousands of these available to the schools on many different subjects. Again, it is possible that time devoted to these may militate against use of other resources. The negative relationship between use of these media and scores on the Gen. Occ. and Job Voc. scales does not mean that their use directly caused lower scores.

Intercorrelations of variables. Other relationships besides those between the independent and dependent variables may be of interest. For example, to what extent do students who use one type of resource--say, reading materials--tend also to use another, such as consultation with guidance counselors, or watching films, or interacting with computer systems, or attending career days, and so on? To help answer questions of this nature, Table 45 displays the entire matrix of intercorrelations of all the variables that went into the regression analysis. The relationships between various activities can be read in the upper left quadrant of that table: thus reading has its strongest association with filmtape (.33) and weakest with computer (.07). In general, computer use tends to have quite low relationships with use of all other resources, the highest correlation being .20 with use of microfiche. The highest correlation is between work experience and participation in a career planning course or

unit (.34). The lowest is between attending a career day and using filmtape (.05).

Scanning the matrix, one may be struck with the evidence of very low relationships (essentially zero) between descriptive variables, such as grade and sex, and the use of any resource. Race (non-White) has positive but low relationships with use of resources; coefficients of .10 or higher are found for its correlation with reading, sorting cards, work experience, career days, and planning courses. Thus, non-Whites tend to report slightly greater use of occupational information resources in schools than do Whites.

Table 45 includes the school variables for the twelve schools (School 0 was the reference school for the other eleven--that is, School variables 1-11 are all measured from the zero base line of School 0). It is noteworthy that the relationships between the variables for school and those for reported use of resources tend to be very low, regardless of the type of school represented. The notable exception is school number 6, selected to represent a computer-based resource. Even though the base-line school, number 0, was also a "computer" school, the coefficient showing the departure of school 6 from school 0 as a correlate of students' reported use of computers is .16.

Correlations have been extracted from Table 45 and placed in Table 46 for those explanatory variables that were identified as statistically significant in Tables 38-42. As can be seen, the correlations are quite small, or (in instances involving filmtape, sorting cards, and work experience) negative, for everything except Pure Vocabulary and Plans.

Influence of Resources

Earlier in this chapter we showed that the specimen schools differed with respect to the amount of career decision-making activity that their students engaged in. The data for the discussion came from Question 8, which asked not only whether the students had changed their minds about occupations or participated in various activities, but also which career resource, if any, had caused the change.

Purposive behavior not caused by a resource. The other side of the coin is to see how many students had undergone a career decision-making change or activity that was not attributable to a resource. If the number is large, we would conclude (or, at least, entertain the idea) that something useful was happening to the students, but that the resources had not caused it. On the other hand, if the number is small, most changes and activities are presumably due to the effects of resources.

Table 47 shows the result of this analysis. The percentages range from a low of 3.6 percent at the Poverty/Materials school who wrote for more information on their own to 46.4 percent of the students at the same

school who talked to their parents about an occupation. (It is interesting that both limits of the range are at the same school and that that school scored highest on five of the six test scales.) The percentages are highest for talking with someone about his or her occupation, talking to parents, and talking to friends--a finding that is consistent with what one would expect. The percentages are in the teens and seldom exceed 20 for those changes that suggest that students are really thinking about possible careers: changing their minds, adding occupations for consideration or dropping them, or continuing with their original choice. And the percentages are even lower for the activities of reading for additional information and writing for more.

We have no point of reference for judging whether these percentages are "good" or "bad." They seem reasonable, particularly when one recalls the importance of "informal" resources--especially parents and friends--in students' career thinking (Chapman & Katz, 1981). Apparently, formal resources play a large part in bringing about changes or stimulating activities, as reported by students.

Most influential resource in inspiring purposive behavior. Which resources carry the most weight? Table 48 shows the resource that was named most frequently as having been the cause of a change of mind or an activity. Since multiple responses were allowed and since 12 resources (including "other" and "none") were involved, the percentages for the most frequently named resource are generally low. Nevertheless, the influence of reading materials, regardless of "type," is clear. Students at all 12 schools named reading materials as the most frequent cause of their changing their minds, continuing consideration, and reading more information; at 10 schools as the cause of adding occupations for consideration or dropping occupations from it; and at 9 schools as the cause of their writing for more information. Reading materials also play a part in getting students to talk with parents.

Experiential activities--work-experience, career days, plant tours, and course-work in career planning--are the most frequently named cause (although percentages are low) of getting students to watch someone at work, to take part in actual work activities, and to talk with friends about an occupation. Guidance counselors are the most frequent cause of students' talking to someone about their work and talking with parents.

There are some obvious caveats about Table 48. In only one instance does a specification reach the 50 percent level (Poverty/Materials for reading more information). Study 1 revealed that reading materials were by far the most common resource nationwide; they were found in 98 percent of the schools; the Occupational Outlook Handbook appeared in 92 percent of them. The very prevalence of reading material would increase the likelihood that students would name it as a cause instead of some less common resource. Glamorous works of fiction might also have influenced occupational choice and led students to name reading as a cause. Finally, students who read the hardcopy output from a computer terminal

or a microfiche printer may have checked reading materials as a cause rather than computer or microfiche.

Nevertheless, Table 48 suggests that the single most influential resource in terms of generating purposive activity or change of attitude is reading materials. Counselors and experiential activities are also important for a smaller number of activities.

Gaps in Effectiveness

Even though the test instrument was not designed as a diagnostic tool, it may be used that way. The reason is that the instrument covers the various areas of occupational information that are considered most important for career decision-making. Assuming that the test item is not faulty, a question that a large proportion of students fails to answer correctly indicates a class of information not communicated, for one reason or another, by the resources.

Table 10 (Chapter II) shows, graphically and numerically, the percentage of students who responded correctly to each of the information items in the questionnaire. The N for the table is the full sample (1526), since it is not necessary in this instance, as it was for the regressions, to exclude students who made no response at all to the items that comprise a scale. Nonrespondents tend to be low-scorers, and therefore the percentages include the whole range of student abilities.

Table 10 indeed shows some areas of deficiency. In the Occ. Spec. scale, only one-third of the students knew the national average salary of the occupation they were interested in.

The Gen. Occ. scale clearly indicates several gaps in information. Only one percent were able to pick out of a list of ten occupations the three with fewest workers (Item 32) and only 2 percent the three (out of another list of ten occupations) with most workers (Item 28). Students shopping around the occupational marketplace should certainly be aware that some occupations are harder to get into than others because they have fewer workers. Similarly, students in high school should have some idea of what they would be getting into in the way of educational requirements; but only 2 percent could identify the two occupations (in a list of 10) that required some graduate study (Item 29). Other areas where essential knowledge was lacking are an occupation with a 9-to-5 schedule (12 percent--Item 25), two occupations that are usually entered through an apprenticeship (17 percent--Item 30), two occupations with a low salary range (24 percent, Item 24), an occupation that provided no opportunity for independent decision-making (24 percent, Item 36), and three occupations requiring a great amount of leadership (27 percent, Item 31). The latter two items concern occupational values, an area of information generally not covered by the resources.

Except for Item 62, salary range (3 percent right), the percentages

for the remaining items are above 30, and for the vocabulary items they reach 91. It is interesting to speculate on the cause for the low scores on salary range. To get the correct answers, students had to put together the figure for the beginning salary in the first line of the test paragraph and the figure for top salary in the last line. The other three salary items did not require students to make inferences of this kind, and the percentages of correct response are much higher. We do not know whether students were unfamiliar with the idea of a range or unable to extract information that is implied rather than stated.

Although the three values questions were dropped from the regression analyses owing to the questions' low reliability, the scores are interesting in themselves. The rate of correct responses did not reach 50 percent on any of the three. The questions were all alike in that getting the right answers depended on the students' recognizing which of two hypothetical occupations would be more satisfying with respect to the students' own occupational values. (The students had previously designated the importance of each value in their scheme of things.) The values questions were the last on the instrument, about 10 percent of the group omitted them entirely, and the diminishing percentages of correct responses suggest that lack of time may have led to guessing. Information about opportunity to satisfy values is hardly ever explicity stated in occupational resources; students have to infer it for themselves, if, indeed, they are aware of their values at all. Perhaps it is encouraging that about 40 percent of the students responded correctly.

Summary

The first analysis of six types at two levels of poverty showed that there were statistically significant differences between types but not between poverty levels; there also appeared to be significant type versus poverty interactions. When poverty status was determined by percentage of students in the free or reduced-cost lunch program rather than by census data, considerable reshuffling occurred without, however, producing statistically significant main effects for poverty. Individual school effects appeared to be more consistent and noteworthy than "type" effects. The Poverty/Materials and Nonpoverty/Minimum schools scored above the mean of all schools on all six scales, while the Nonpoverty/Publications and Poverty/Experiential schools always scored below the mean.

The rank-order of the schools on the six scales proved to be statistically significant: the Poverty/Materials school scored highest on five of the six scales and second on the sixth; the Nonpoverty/Publications and Poverty/Experiential schools always ranked eleventh or twelfth. This rank ordering held true when the schools were measured on the extent to which their students had changed their minds about occupations or engaged in purposive activities because of career information resources. The rank order on this measure was highly correlated with the rank orders on the six scales.

The efficacy of the different resources themselves, regardless of the type that the school represented, was examined by means of correlation matrices for each school and then by means of regressions in which students were treated as if they were one large sample. The resources for these analyses are reading, interaction with guidance counselors, films and tapes, computers, microfiche, sorting cards and needlesorts, work experience, career days, plant tours, and courses or units of instruction in career choice. The six scales were treated as dependent variables. Sex, grade, race, postgraduation plans, and score on nonoccupational vocabulary were used as control variables. The correlation matrices revealed differences between the schools in many respects, but only moderate, inconsistent, and often negative correlations between the resources and the dependent variables. The highest correlations were between vocabulary and the six scales. This result was confirmed by the regressions of five of the scale scores (Values was dropped in this analysis) on the other explanatory variables. In every case nearly all of the multiple correlation was attributable to the vocabulary control variable. Although the resource variables sometimes reached statistical significance, their contribution to the multiple R was slight and often negative.

A matrix of intercorrelations of all variables used in the regression analysis showed that use of any particular resource seldom tended to be associated substantially with use of any particular other resource, rarely with school, and almost never with grade or sex. There was, however, a slight tendency for non-Whites to use some resources more than Whites did.

For each school, the percentage of students was tabulated who indicated that they had changed their minds about an occupation or engaged in other career decision-making activities, but that no resource had been the cause. The percentages are usually below 20 except for the activities of talking with parents and friends, where they are somewhat higher. The resource named most frequently as the cause of a change of mind or purposive activity was reading. Guidance counselors were named much more rarely.

An item-by-item analysis of the test instrument suggests that there are gaps in the students' knowledge of occupations. Very few respondents were able to pick out from groups of 10 the occupations with the fewest workers nationwide, with the most workers, or with a preparation period of more than four years for education. There were other deficiencies as well. The students were better informed about the occupation they were thinking of entering than about occupations in general.

Table 13

Analysis of Variance for Subtest on Information
About a Specified Occupation

DEPENDENT VARIABLE: OCC.SPEC

CROSS-TABULATION OF: POV.LEV. (ROWS) BY TYPE (COLUMNS)

		COMPUTER	EXPERIEN	MATERIAL	PUBLICAT	INSTRUCT	NONE	TOTAL
NONPOVERTY	N	177.	117.	122.	116.	129.	111.	772.
	MEAN	8.82	8.97	9.03	8.53	8.64	9.11	8.84
	S.D.	3.25	2.53	2.87	3.33	2.86	2.71	2.97
	MIN.	0.0	3.0	1.0	0.0	1.0	3.0	0.0
	MAX.	16.0	14.0	16.0	15.0	15.0	15.0	16.0
POVERTY	N	159.	98.	110.	116.	93.	122.	698.
	MEAN	8.80	8.12	10.15	9.48	8.81	9.01	9.07
	S.D.	2.95	2.83	2.67	3.06	2.59	2.86	2.91
	MIN.	1.0	3.0	2.0	2.0	3.0	2.0	1.0
	MAX.	15.0	15.0	15.0	15.0	16.0	16.0	16.0
TOTAL	N	336.	215.	232.	232.	222.	233.	1470.
	MEAN	8.81	8.59	9.56	9.00	8.71	9.06	8.95
	S.D.	3.11	2.71	2.83	3.23	2.75	2.79	2.95
	MIN.	0.0	3.0	1.0	0.0	1.0	2.0	0.0
	MAX.	16.0	15.0	16.0	15.0	16.0	16.0	16.0

********** ANALYSIS OF VARIANCE TABLE **********

DEPENDENT VARIABLE OCC.SPEC

SOURCE	SUM OF SQUARES	DOF	MEAN SQUARE	F RATIO	PROBABILITY OF LARGER F	CONTRIBUTION TO R. SQ.	R SQUARE
TOTAL	130528.0000	1470					
MEAN	117777.5265	1	117777.5265	13569.3147	0.0		
ERROR	12750.4735	1469	8.6797				
POVERTY LEVEL	15.9227	1	15.9227	1.8494	0.1741	0.0012	
TYPE	136.1513	5	27.2303	3.1629	0.0078	0.0107	
ERROR	12595.8950	1463	8.6096				0.0121
PT	150.7299	5	30.1460	3.5317	0.0037		
ERROR	12445.1652	1458	8.5359				0.0239

Table 14

Analysis of Variance for Subtest on General Occupational Information

DEPENDENT VARIABLE: GEN.OCC.

CROSS-TABULATION OF: POV.LEV. (ROWS) BY TYPE (COLUMNS)

		COMPUTER	EXPERIEN	MATERIAL	PUBLICAT	INSTRUCT	NONE	TOTAL
NONPOVERTY	N	179.	123.	129.	121.	135.	113.	800.
	MEAN	5.03	4.90	4.55	3.15	4.99	4.96	4.63
	S.D.	2.40	2.38	2.48	2.53	2.66	2.05	2.52
	MIN.	0.0	0.0	0.0	0.0	0.0	1.0	0.0
	MAX.	11.0	11.0	11.0	10.0	11.0	10.0	11.0
POVERTY	N	168.	107.	112.	119.	96.	124.	726.
	MEAN	4.21	3.30	5.34	4.61	4.73	4.87	4.50
	S.D.	2.05	2.57	2.26	2.53	2.32	2.31	2.41
	MIN.	0.0	0.0	1.0	0.0	0.0	0.0	0.0
	MAX.	9.0	10.0	12.0	10.0	9.0	12.0	12.0
TOTAL	N	347.	230.	241.	240.	231.	237.	1526.
	MEAN	4.63	4.16	4.92	3.87	4.88	4.91	4.57
	S.D.	2.28	2.60	2.41	2.64	2.53	2.19	2.47
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MAX.	11.0	11.0	12.0	10.0	11.0	12.0	12.0

********** ANALYSIS OF VARIANCE TABLE **********

DEPENDENT VARIABLE GEN.OCC.

SOURCE	SUM OF SQUARES	DOF	MEAN SQUARE	F RATIO	PROBABILITY OF LARGER F	CONTRIBUTION TO R. SQ.	R SQUARE
TOTAL	41105.0000	1526					
MEAN	31826.3178	1	31826.3178	5230.8220	0.0		
ERROR	9278.6822	1525	6.0844				
POVERTY LEVEL	6.0711	1	6.0711	1.0206	0.3126	0.0007	
TYPE	235.8121	5	47.1624	7.9283	0.0000	0.0254	
ERROR	9035.8943	1519	5.9486				0.0262
PT	368.6960	5	73.7392	12.8809	0.0		
ERROR	8667.1983	1514	5.7247				0.0659

Table 15

Analysis of Variance for Subtest
on Vocabulary

DEPENDENT VARIABLE: TOTAL VOCAB.

CROSS-TABULATION OF: POV.LEV. (ROWS) BY TYPE (COLUMNS)

		COMPUTER	EXPERIEN	MATERIAL	PUBLICAT	INSTRUCT	NONE	TOTAL
NONPOVERTY	N	179.	123.	129.	121.	135.	113.	800.
	MEAN	10.23	9.51	8.66	7.79	9.99	10.10	9.44
	S.D.	2.98	3.24	3.58	4.89	3.08	2.59	3.55
	MIN.	0.0	2.0	0.0	0.0	2.0	3.0	0.0
	MAX.	14.0	14.0	14.0	14.0	14.0	14.0	14.0
POVERTY	N	168.	107.	112.	119.	96.	124.	726.
	MEAN	9.10	7.95	10.87	9.59	9.86	9.12	9.39
	S.D.	2.96	4.25	2.32	3.70	3.06	3.02	3.35
	MIN.	0.0	0.0	4.0	0.0	1.0	0.0	0.0
	MAX.	14.0	14.0	14.0	14.0	14.0	14.0	14.0
TOTAL	N	347.	230.	241.	240.	231.	237.	1526.
	MEAN	9.68	8.80	9.68	8.68	9.94	9.59	9.42
	S.D.	3.02	3.82	3.25	4.43	3.07	2.87	3.46
	MIN.	0.0	0.0	0.0	0.0	1.0	0.0	0.0
	MAX.	14.0	14.0	14.0	14.0	14.0	14.0	14.0

********** ANALYSIS OF VARIANCE TABLE **********

DEPENDENT VARIABLE TOTAL VOCAB.

SOURCE	SUM OF SQUARES	NDF	MEAN SQUARE	F RATIO	PROBABILITY OF LARGER F	CONTRIBUTION TO R. SQ.	R SQUARE
TOTAL	153542.0000	1526					
MEAN	135281.4050	1	135281.4050	11297.7777	0.0		
ERROR	18260.5950	1525	11.9742				
POVERTY LEVEL	0.3983	1	0.3983	0.0337	0.8542	0.0000	
TYPE	330.4984	5	66.0997	5.6001	0.0001	0.0181	
ERROR	17929.0844	1519	11.8032				0.0182
PT	796.2120	5	159.2424	14.0720	0.0		
ERROR	17132.8724	1514	11.3163				0.0618

Table 16

Analysis of Variance for Subtest on Recognition of
Skills, Aptitudes, Interests, and Values

DEPENDENT VARIABLE: S.A.I.V.

CROSS-TABULATION OF: POV.LEV. (ROWS) BY TYPE (COLUMNS)

		COMPUTER	EXPERIEN	MATERIAL	PUBLICAT	INSTRUCT	NONE	TOTAL
NONPOVERTY	N	179.	123.	129.	121.	135.	113.	800.
	MEAN	4.02	4.01	3.43	2.48	3.92	4.35	3.72
	S.D.	1.68	1.76	1.78	2.02	1.76	1.57	1.86
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MAX.	7.0	7.0	7.0	7.0	7.0	7.0	7.0
POVERTY	N	168.	107.	112.	119.	96.	124.	726.
	MEAN	3.36	3.19	4.16	3.87	3.92	3.69	3.67
	S.D.	1.72	1.90	1.50	1.70	1.50	1.56	1.69
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MAX.	7.0	7.0	7.0	7.0	7.0	7.0	7.0
TOTAL	N	347.	230.	241.	240.	231.	237.	1526.
	MEAN	3.70	3.63	3.77	3.17	3.92	4.00	3.70
	S.D.	1.73	1.87	1.69	2.00	1.66	1.60	1.78
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MAX.	7.0	7.0	7.0	7.0	7.0	7.0	7.0

********** ANALYSIS OF VARIANCE TABLE **********

DEPENDENT VARIABLE S.A.I.V.

SOURCE	SUM OF SQUARES	DOF	MEAN SQUARE	F RATIO	PROBABILITY OF LARGER F	CONTRIBUTION TO R. SQ.	R SQUARE
TOTAL	25690.0000	1526					
MEAN	20859.8716	1	20859.8716	6586.0162	0.0		
ERROR	4830.1284	1525	3.1673				
POVERTY LEVEL	0.6774	1	0.6774	0.2177	0.6409	0.0001	
TYPE	103.4509	5	20.6902	6.6504	0.0000	0.0214	
ERROR	4725.8071	1519	3.1111				0.0216
PT	247.6159	5	49.5232	16.7429	0.0		
ERROR	4478.1912	1514	2.9579				0.0729

Table 17

Analysis of Variance for Subtest on Interpretation of Salary Information

DEPENDENT VARIABLE: SALARIES

CROSS-TABULATION OF: POV.LEV. (ROWS) BY TYPE (COLUMNS)

		COMPUTER	EXPERIEN	MATERIAL	PUBLICAT	INSTRUCT	NONE	TOTAL
NONPOVERTY	N	179.	123.	129.	121.	135.	113.	800.
	MEAN	1.85	1.80	1.53	1.22	2.04	2.08	1.76
	S.D.	1.13	1.15	1.16	1.15	1.13	0.92	1.15
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MAX.	4.0	4.0	3.0	3.0	4.0	4.0	4.0
POVERTY	N	168.	107.	112.	119.	96.	124.	726.
	MEAN	1.49	1.21	2.10	1.97	1.90	1.90	1.75
	S.D.	1.07	1.17	0.88	1.13	0.93	1.08	1.10
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MAX.	3.0	4.0	4.0	4.0	4.0	4.0	4.0
TOTAL	N	347.	230.	241.	240.	231.	237.	1526.
	MEAN	1.68	1.53	1.80	1.60	1.98	1.98	1.75
	S.D.	1.12	1.20	1.07	1.20	1.05	1.01	1.12
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MAX.	4.0	4.0	4.0	4.0	4.0	4.0	4.0

********** ANALYSIS OF VARIANCE TABLE **********

DEPENDENT VARIABLE SALARIES

SOURCE	SUM OF SQUARES	NDF	MEAN SQUARE	F RATIO	PROBABILITY OF LARGER F	CONTRIBUTION TO R. SQ.	R SQUARE
TOTAL	6622.0000	1526					
MEAN	4692.6448	1	4692.6448	3709.1581	0.0		
ERROR	1929.3552	1525	1.2652				
POVERTY LEVEL	0.0667	1	0.0667	0.0538	0.8166	0.0000	
TYPE	44.4725	5	8.8945	7.1683	0.0000	0.0231	
ERROR	1884.7844	1519	1.2408				0.0231
PT	87.4636	5	17.4927	14.7352	0.0		
ERROR	1797.3208	1514	1.1871				0.0684

Table 18

Analysis of Variance for Subtest
on Use of Occupational Values

DEPENDENT VARIABLE: VALUES

CROSS-TABULATION OF: POV.LEV. (ROWS) BY TYPE (COLUMNS)

		COMPUTER	EXPERIEN	MATERIAL	PUBLICAT	INSTRUCT	NONE	TOTAL
NONPOVERTY	N	170.	110.	113.	80.	129.	111.	713.
	MEAN	1.42	1.39	1.43	0.91	1.44	1.51	1.38
	S.D.	0.93	0.96	0.86	0.66	0.96	0.84	0.91
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MAX.	3.0	3.0	3.0	2.0	3.0	3.0	3.0
POVERTY	N	139.	81.	112.	114.	94.	119.	659.
	MEAN	1.29	1.17	1.54	1.41	1.29	1.45	1.37
	S.D.	0.89	1.04	0.80	0.92	0.85	0.84	0.89
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MAX.	3.0	3.0	3.0	3.0	3.0	3.0	3.0
TOTAL	N	309.	191.	225.	194.	223.	230.	1372.
	MEAN	1.36	1.30	1.48	1.21	1.38	1.48	1.37
	S.D.	0.92	1.00	0.83	0.85	0.92	0.84	0.90
	MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MAX.	3.0	3.0	3.0	3.0	3.0	3.0	3.0

********** ANALYSIS OF VARIANCE TABLE **********

DEPENDENT VARIABLE VALUES

SOURCE	SUM OF SQUARES	NDF	MEAN SQUARE	F RATIO	PROBABILITY OF LARGER F	CONTRIBUTION TO R. SQ.	R SQUARE
TOTAL	3701.0000	1372					
MEAN	2589.8141	1	2589.8141	3195.3567	0.0		
ERROR	1111.1859	1371	0.8105				
POVERTY LEVEL	0.0137	1	0.0137	0.0171	0.8965	0.0000	
TYPE	12.0344	5	2.4069	2.9891	0.0110	0.0109	
ERROR	1099.1176	1365	0.8052				0.0109
PT	17.1891	5	3.4378	4.3214	0.0007		
ERROR	1081.9285	1360	0.7955				0.0263

Table 19

Realignment of Schools by Poverty/Nonpoverty on the Basis of the Percentage of Students Participating in the Free School Lunch or Reduced Cost School Lunch Program

School ID	Original Classification	New Classification	% Students on Free or Reduced Lunch[a]
0	Nonpov/computer	Nonpoverty	3.79
1	Nonpov/exper.	Poverty	23.12
2	Nonpov/materials	Poverty	15.09
3	Nonpov/publics.	Poverty	21.08
4	Nonpov/instruct.	Poverty	15.29
5	Nonpov/minimum	Poverty	12.19
6	Pov/computer	Poverty	34.72
7	Pov/exper.	Poverty	73.67
8	Pov/materials	Poverty	36.11
9	Pov/publics.	Nonpoverty	5.13
10	Pov/instruct.	Poverty	20.55
11	Pov/minimum	Nonpoverty	4.55

[a]Per telephone report.

Table 20

Rank Order of Schools by Mean Scores on the Six Scales

Scales	Rank (1=highest score)											
	School I.D.[a]											
	0	1	2	3	4	5	6	7	8	9	10	11
Occ. Spec.	7	6	4	11	10	3	9	12	1	2	8	5
Gen. Occ.	2	5	9	12	3	4	10	11	1	8	7	6
Total Vocab.	2	7	10	12	4	3	9	11	1	6	5	8
SAIV	3	4	9	12	5.5	1	10	11	2	7	5.5	8
Salaries	7	8	9	11	3	2	10	12	1	4	5.5	5.5
Values	6	8	5	12	4	2	9.5	11	1	7	9.5	3
Column totals	27	38	46	70	29.5	15	57.5	68	7	34	40.5	35.5

[a]
0=Nonpov/Computer
1=Nonpov/Exper.
2=Nonpov/Materials
3=Nonpov/Publics.
4=Nonpov/Instruct.
5=Nonpov/Minimum
6=Pov/Computer
7=Pov/Exper.
8=Pov/Materials
9=Pov/Publics.
10=Pov/Instruct.
11=Pov/Minimum

Table 21

Correlations of the Rank-Ordering of Schools by Their Mean Scores on the Six Scales

	Scales					
	Occ Spec	Gen Occ	Total Vocab	SAIV	Salaries	Values
Occ Spec	1.000					
Gen Occ	.503	1.000				
Total Vocab.	.531	.930	1.000			
SAIV	.603	.911	.928	1.000		
Salaries	.684	.795	.851	.799	1.000	
Values	.733	.781	.687	.698	.820	1.000

Table 22

Percentage of Students at Each School Who Indicated That They Had Not Participated in Various Career Decision-Making Activities

Activities	Schools											
	Nonpov/ Computer (N=179)	Nonpov/ Exper. (N=123)	Nonpov/ Materials (N=129)	Nonpov/ Publics. (N=121)	Nonpov/ Instruct. (N=135)	Nonpov/ Minimum (N=113)	Pov/ Computer (N=168)	Pov/ Exper. (N=107)	Pov/ Materials (N=112)	Pov/ Publics. (N=119)	Pov/ Instruct. (N=96)	Pov/ Minimum (N=124)
Changed mind about occupation	46.4	39.8	46.5	52.1	43.7	39.8	44.6	42.1	36.6	43.7	45.8	35.5
Added occupations for consideration	38.5	35.0	43.4	52.1	40.0	39.8	30.4	48.6	25.0	30.3	37.5	37.1
Dropped occupations from consideration	59.2	56.1	63.6	69.4	63.7	56.6	60.7	58.9	55.4	52.1	69.8	50.0
Continued consideration	60.3	52.8	54.3	52.1	53.3	41.6	57.1	61.7	44.6	47.9	58.3	57.3
Read more information	40.8	35.8	38.0	45.5	39.3	30.1	37.5	40.2	29.5	37.0	40.6	41.1
Wrote for more information	70.9	78.9	82.2	75.2	74.8	63.7	81.5	76.6	74.1	77.3	84.4	83.1
Watched someone working	59.8	48.0	55.8	64.5	69.6	54.9	45.2	50.5	52.7	44.5	59.4	43.5
Took part in activities of an occupation	67.0	57.7	64.3	68.6	72.6	64.6	56.5	57.0	65.2	47.1	62.5	49.2
Talked to someone about his/her occupation	44.7	44.7	45.7	50.4	48.1	32.7	45.2	49.5	40.2	35.3	45.8	33.1
Talked to parents about an occupation	29.1	35.8	34.9	43.8	33.3	21.2	32.1	47.7	18.8	18.5	27.1	16.1
Talked to friends about an occupation	38.0	35.0	38.8	52.1	37.0	23.9	32.1	47.7	20.5	31.9	43.8	23.4

Table 23

Number of Career Decision-Making Activities

Per Student at the 12 Schools

School Number	N	Activities per Student [a]	School Rank on Activities	School Rank by Scores on Test Scales [b]
0	179	5.45	7	3
1	123	5.80	5	7
2	129	5.33	8	9
3	121	4.74	12	12
4	135	5.24	10	4
5	113	6.31	3.5	2
6	168	5.77	6	10
7	107	5.20	11	11
8	112	6.38	1	1
9	119	6.34	2	5
10	96	5.25	9	8
11	124	6.31	3.5	6

[a] Number of activities per student = sum of item circled for questionnaire Item 8A divided by N.

[b] Rank order by column totals in Table 20.

Table 24

Correlations of the Rank-Ordering of Schools by Their Students' Career Decision-Making Activities (Table 23) and Rank-Ordering by Mean Score on the Six Scales (Table 20)

	Scales					
	Occ-Spec	Gen. Occ.	Total Vocab.	SAIV	Salaries	Values
Activities	.890	.519	.544	.584	.652	.668

Table 25

Correlation Matrix for the Nonpov/Computer School, Independent and Dependent Variables

CORRELATION MATRIX NONPOV/COMPUTER

	READING	GUIDANCE	FILMTAPE	COMPUTER	MICROFI.	SORTCRDS	WORK EXP	CAREER D	PLANT T.	PLAN CRS	SEX	GRADE 1
READING	1.0000	0.2526	0.2793	-0.0525	0.1226	0.0807	0.1585	0.0651	0.0080	0.1492	0.0544	0.0639
GUIDANCE	0.2526	1.0000	0.1047	0.0707	-0.0816	-0.0907	-0.0741	0.1587	0.0505	0.0620	0.0383	-0.0993
FILMTAPE	0.2793	0.1047	1.0000	-0.0046	0.2999	0.1396	0.2017	-0.0550	0.0507	0.2347	0.0575	-0.0590
COMPUTER	-0.0525	0.0707	-0.0046	1.0000	0.1269	0.1491	-0.0873	-0.0710	0.0403	0.0834	-0.0493	-0.1177
MICROFI.	0.1226	-0.0816	0.2999	0.1269	1.0000	0.3769	0.0961	-0.1153	0.1791	0.0647	0.0184	-0.0746
SORTCRDS	0.0807	-0.0907	0.1396	0.1491	0.3769	1.0000	0.1434	0.0456	0.1352	0.2146	0.0526	0.0215
WORK EXP	0.1585	-0.0741	0.2017	-0.0873	0.0961	0.1434	1.0000	0.0396	0.1947	0.2242	0.1582	-0.0929
CAREER D	0.0651	0.1587	-0.0550	-0.0710	-0.1153	0.0456	0.0396	1.0000	0.1316	0.0369	0.2175	0.0425
PLANT T.	0.0080	0.0505	0.0507	0.0403	0.1791	0.1352	0.1947	0.1316	1.0000	0.0780	0.1621	-0.1041
PLAN CRS	0.1492	0.0620	0.2347	0.0834	0.0647	0.2146	0.2242	0.0369	0.0780	1.0000	0.1028	-0.0412
SEX	0.0544	0.0383	0.0575	-0.0493	0.0184	0.0526	0.1582	0.2175	0.1621	0.1028	1.0000	-0.0364
GRADE 1	0.0639	-0.0993	-0.0590	-0.1177	-0.0746	0.0215	-0.0929	0.0425	-0.1041	-0.0412	-0.0364	1.0000
GRADE 2	0.1227	0.0465	0.0154	0.1542	0.1836	0.0891	0.1999	0.0509	0.0736	0.0540	-0.0173	-0.6102
RACE	0.1630	-0.0113	0.2313	0.0173	0.2224	0.2996	0.1535	-0.0005	0.0666	0.1823	0.0024	0.1451
PLANS	-0.0357	-0.0719	0.0351	-0.3095	0.1488	0.0597	0.0742	-0.0669	0.1076	0.1635	0.0897	-0.0454
PURE VOC	0.0096	0.0488	-0.1806	-0.0023	-0.2230	-0.2496	0.0278	0.1129	-0.0210	-0.1459	-0.1255	-0.1856
OCC-SPEC	0.0591	0.0059	-0.0889	0.0587	-0.1020	-0.0691	0.0294	-0.0032	-0.0769	0.0069	-0.1463	-0.0151
GEN OCC	0.0608	0.1160	-0.2070	0.1319	-0.1299	-0.1766	-0.0717	0.0002	0.0130	-0.0605	0.0080	-0.0322
S.A.I.V.	-0.0871	0.0237	-0.1851	-0.0100	-0.0475	-0.1425	-0.0730	0.0549	0.0489	0.0805	0.1175	-0.1189
SALARIES	0.0457	-0.1031	-0.0217	-0.1113	0.0730	-0.1129	0.0378	0.0678	-0.0146	-0.0511	-0.0260	0.0218
VALUES	-0.1097	-0.0408	-0.0909	-0.0099	-0.1470	-0.1862	0.0351	-0.0842	-0.0436	0.0222	-0.0647	0.0302
JOB VOC.	-0.0214	0.0758	-0.2299	0.0284	-0.2436	-0.2756	-0.0604	0.0500	-0.0020	-0.0324	-0.0047	-0.2006

	GRADE 2	RACE	PLANS	PURE VOC	OCC-SPEC	GEN OCC	S.A.I.V.	SALARIES	VALUES	JOB VOC.
READING	0.1227	0.1630	-0.0357	0.0096	0.0591	0.0608	-0.0871	0.0457	-0.1097	-0.0214
GUIDANCE	0.0465	-0.0113	-0.0719	0.0488	0.0059	0.1160	0.0237	-0.1031	-0.0408	0.0758
FILMTAPE	0.0154	0.2313	0.0351	-0.1806	-0.0889	-0.2070	-0.1851	-0.0217	-0.0909	-0.2299
COMPUTER	0.1542	0.0173	-0.3095	-0.0023	0.0587	0.1319	-0.0100	-0.1113	-0.0099	0.0284
MICROFI.	0.1836	0.2224	0.1488	-0.2230	-0.1020	-0.1299	-0.0475	0.0730	-0.1470	-0.2436
SORTCRDS	0.0891	0.2996	0.0597	-0.2496	-0.0691	-0.1766	-0.1425	-0.1129	-0.1862	-0.2756
WORK EXP	0.1999	0.1535	0.0742	0.0278	0.0294	-0.0717	-0.0730	0.0378	0.0351	-0.0604
CAREER D	0.0509	-0.0005	-0.0669	0.1129	-0.0032	0.0002	0.0549	0.0678	-0.0842	0.0500
PLANT T.	0.0736	0.0666	0.1076	-0.0210	-0.0769	0.0130	0.0489	-0.0146	-0.0436	-0.0020
PLAN CRS	0.0540	0.1823	0.1635	-0.1459	0.0069	-0.0605	0.0805	-0.0511	0.0222	-0.0324
SEX	-0.0173	0.0024	0.0897	-0.1255	-0.1463	0.0080	0.1175	-0.0260	-0.0647	-0.0047
GRADE 1	-0.6102	0.1451	-0.0454	-0.1856	-0.0151	-0.0322	-0.1189	0.0218	0.0302	-0.2006
GRADE 2	1.0000	0.0291	0.0313	0.1261	0.0889	0.1162	0.0948	0.0351	-0.0853	0.1936
RACE	0.0291	1.0000	0.0763	-0.3221	-0.0832	-0.2135	-0.2181	0.0012	-0.1668	-0.2685
PLANS	0.0313	0.0763	1.0000	-0.2376	-0.1480	-0.3458	-0.0748	-0.1357	-0.0941	-0.2208
PURE VOC	0.1261	-0.3221	-0.2376	1.0000	0.2491	0.3860	0.2964	0.0863	0.1671	0.5453
OCC-SPEC	0.0889	-0.0832	-0.1480	0.2491	1.0000	0.2714	0.0477	0.0359	0.1420	0.1767
GEN OCC	0.1162	-0.2135	-0.3458	0.3860	0.2714	1.0000	0.2440	0.1559	0.1672	0.3948
S.A.I.V.	0.0948	-0.2181	-0.0748	0.2964	0.0477	0.2440	1.0000	0.1305	0.1074	0.3414
SALARIES	0.0351	0.0012	-0.1357	0.0863	0.0359	0.1559	0.1305	1.0000	0.1391	0.1282
VALUES	-0.0853	-0.1668	-0.0941	0.1671	0.1420	0.1672	0.1074	0.1391	1.0000	0.1759
JOB VOC.	0.1936	-0.2685	-0.2208	0.5453	0.1767	0.3948	0.3414	0.1282	0.1759	1.0000

Table 26

Correlation Matrix for the Nonpov/Experience School,
Independent and Dependent Variables

CORRELATION MATRIX NONPOV/EXPERIENCE

	READING	GUIDANCE	FILMTAPE	COMPUTER	MICROFI.	SORTCRDS	WORK EXP	CAREER D	PLANT T.	PLAN CRS	SEX	GRADE 1
READING	1.0000	0.1969	0.3383	0.1351	0.1627	0.0416	0.2180	0.3217	0.0745	0.1830	-0.1254	0.1722
GUIDANCE	0.1969	1.0000	0.0645	0.1691	-0.1282	0.0919	0.1457	0.2535	-0.0121	0.1260	-0.0946	-0.0290
FILMTAPE	0.3383	0.0645	1.0000	0.1411	0.3529	0.0733	0.3249	0.2470	0.0773	0.1466	-0.1118	0.2077
COMPUTER	0.1351	0.1691	0.1411	1.0000	0.1632	0.2183	0.1509	0.2246	0.3082	0.1334	-0.1569	-0.0911
MICROFI.	0.1627	-0.1282	0.3529	0.1632	1.0000	0.2870	0.1367	0.0733	0.0760	0.0652	-0.0606	0.1933
SORTCRDS	0.0416	0.0919	0.0733	0.2183	0.2870	1.0000	-0.0029	0.0222	-0.0251	0.0889	0.0359	-0.0593
WORK EXP	0.2180	0.1457	0.3249	0.1509	0.1367	-0.0029	1.0000	0.1793	0.2077	0.3097	0.0331	0.0612
CAREER D	0.3217	0.2535	0.2470	0.2246	0.0733	0.0222	0.1793	1.0000	0.2241	0.3125	-0.0392	0.2234
PLANT T.	0.0745	-0.0121	0.0773	0.3082	0.0760	-0.0251	0.2077	0.2241	1.0000	0.3592	-0.1643	0.1360
PLAN CRS	0.1830	0.1260	0.1466	0.1334	0.0652	0.0889	0.3097	0.3125	0.3592	1.0000	0.0655	0.1453
SEX	-0.1254	-0.0946	-0.1118	-0.1569	-0.0606	0.0359	0.0331	-0.0392	-0.1643	0.0655	1.0000	-0.1425
GRADE 1	0.1722	-0.0290	0.2077	-0.0911	0.1933	-0.0593	0.0612	0.2234	0.1360	0.1453	-0.1425	1.0000
GRADE 2	-0.1037	0.0191	-0.1671	0.1305	-0.0881	-0.2251	-0.0851	-0.0537	-0.0194	-0.1606	-0.0116	-0.5580
RACE	0.1829	0.2209	0.0988	-0.0235	-0.0391	0.0572	0.3418	0.1797	0.1661	0.1945	0.0791	0.1736
PLANS	0.0673	-0.2202	0.0331	0.0110	0.0472	0.0511	0.0819	-0.0445	-0.1285	-0.0084	-0.0579	-0.1538
PURE VOC	-0.1354	-0.2135	-0.1479	0.0960	0.1156	-0.0711	-0.3512	0.0486	-0.0335	-0.1863	-0.0810	-0.1191
OCC-SPEC	-0.1124	0.0306	0.0031	-0.0403	0.0116	-0.0326	-0.2210	0.0097	-0.0025	0.1242	-0.1090	-0.0476
GEN OCC	-0.1182	0.0803	-0.1884	-0.0416	-0.0456	-0.1818	-0.1571	0.0841	0.0138	-0.0337	0.1149	-0.1519
S.A.I.V.	-0.0668	-0.0482	-0.0494	0.0362	0.1078	-0.0506	-0.0622	0.0502	-0.0208	-0.0215	-0.0590	-0.0041
SALARIES	-0.0487	0.1448	0.0355	-0.0187	-0.1582	-0.0705	-0.1617	0.0807	0.0106	-0.1005	-0.0437	0.0255
VALUES	-0.0825	-0.0129	-0.0082	0.0920	-0.1638	-0.1619	0.1158	0.0319	-0.0156	0.0043	0.0660	-0.0240
JOB VOC.	-0.0534	-0.1078	-0.1849	0.0697	0.0183	-0.0784	-0.3352	0.1102	0.0368	-0.0837	-0.0989	-0.0455

	GRADE 2	RACE	PLANS	PURE VOC	OCC-SPEC	GEN OCC	S.A.I.V.	SALARIES	VALUES	JOB VOC.
READING	-0.1037	0.1829	0.0673	-0.1354	-0.1124	-0.1182	-0.0668	-0.0487	-0.0825	-0.0534
GUIDANCE	0.0191	0.2209	-0.2202	-0.2135	0.0306	0.0803	-0.0482	0.1448	-0.0129	-0.1078
FILMTAPE	-0.1671	0.0988	0.0331	-0.1479	0.0031	-0.1884	-0.0494	0.0355	-0.0082	-0.1849
COMPUTER	0.1305	-0.0235	0.0110	0.0960	-0.0403	-0.0416	0.0362	-0.0187	0.0920	0.0697
MICROFI.	-0.0881	-0.0391	0.0472	0.1156	0.0116	-0.0456	0.1078	-0.1582	-0.1638	0.0183
SORTCRDS	-0.2251	0.0572	0.0511	-0.0711	-0.0326	-0.1818	-0.0506	-0.0705	-0.1619	-0.0784
WORK EXP	-0.0851	0.3418	0.0819	-0.3512	-0.2210	-0.1571	-0.0622	-0.1617	0.1158	-0.3352
CAREER D	-0.0537	0.1797	-0.0445	0.0486	0.0097	0.0841	0.0502	0.0807	0.0319	0.1102
PLANT T.	-0.0194	0.1661	-0.1285	-0.0335	-0.0025	0.0138	-0.0208	0.0106	-0.0156	0.0368
PLAN CRS	-0.1606	0.1945	-0.0084	-0.1863	0.1242	-0.0337	-0.0215	-0.1005	0.0043	-0.0837
SEX	-0.0116	0.0791	-0.0579	-0.0810	-0.1090	0.1149	-0.0590	-0.0437	0.0660	-0.0989
GRADE 1	-0.5580	0.1736	-0.1538	-0.1191	-0.0476	-0.1519	-0.0041	0.0255	-0.0240	-0.0455
GRADE 2	1.0000	-0.0460	0.0090	0.1957	0.1362	0.2454	0.1297	0.0254	0.0593	0.2025
RACE	-0.0460	1.0000	-0.1051	-0.3889	-0.1779	-0.2922	0.0185	-0.2505	-0.1470	-0.3096
PLANS	0.0090	-0.1051	1.0000	-0.1416	-0.1548	-0.2142	-0.0949	-0.1071	-0.0405	-0.1920
PURE VOC	0.1957	-0.3889	-0.1416	1.0000	0.4058	0.4611	0.4800	0.2225	0.1115	0.6777
OCC-SPEC	0.1362	-0.1779	-0.1548	0.4058	1.0000	0.2589	0.3426	0.2827	0.0921	0.4817
GEN OCC	0.2454	-0.2922	-0.2142	0.4611	0.2589	1.0000	0.2475	0.3941	0.1800	0.5827
S.A.I.V.	0.1297	0.0185	-0.0949	0.4800	0.3426	0.2475	1.0000	0.2387	-0.0330	0.3958
SALARIES	0.0254	-0.2505	-0.1071	0.2225	0.2827	0.3941	0.2387	1.0000	0.1326	0.3514
VALUES	0.0593	-0.1470	-0.0405	0.1115	0.0921	0.1800	-0.0330	0.1326	1.0000	0.0806
JOB VOC.	0.2025	-0.3096	-0.1920	0.6777	0.4817	0.5827	0.3958	0.3514	0.0806	1.0000

Table 27

Correlation Matrix for the Nonpov/Materials School,
Independent and Dependent Variables

CORRELATION MATRIX NONPOV/MATERIALS

	READING	GUIDANCE	FILMTAPE	COMPUTER	MICROFI.	SORTCRDS	WORK EXP	CAREER D	PLANT T.	PLAN CRS	SEX	GRADE 1
READING	1.0000	0.4078	0.4611	0.2090	0.2999	0.2947	0.2367	0.2164	0.1966	0.3492	0.0854	-0.2855
GUIDANCE	0.4078	1.0000	0.3529	0.1806	0.2812	0.1928	0.1652	0.3074	0.2312	0.5090	0.0770	-0.1531
FILMTAPE	0.4611	0.3529	1.0000	0.2661	0.3832	0.2492	0.2207	0.2548	0.1923	0.4223	-0.0285	-0.2541
COMPUTER	0.2090	0.1806	0.2661	1.0000	0.3422	0.1415	-0.0481	0.0086	0.2013	0.1940	-0.0362	-0.1033
MICROFI.	0.2999	0.2812	0.3832	0.3422	1.0000	0.3930	0.2524	0.2109	0.2792	0.4264	-0.0288	-0.2151
SORTCRDS	0.2947	0.1928	0.2492	0.1415	0.3930	1.0000	0.0872	0.4609	0.1089	0.3335	-0.0555	-0.2137
WORK EXP	0.2367	0.1652	0.2207	-0.0481	0.2524	0.0872	1.0000	0.2320	0.0974	0.4584	-0.1080	-0.1852
CAREER D	0.2164	0.3074	0.2548	0.0086	0.2109	0.4609	0.2320	1.0000	0.3712	0.3843	0.0216	-0.0837
PLANT T.	0.1966	0.2312	0.1923	0.2013	0.2792	0.1089	0.0974	0.3712	1.0000	0.3231	0.0877	0.0636
PLAN CRS	0.3492	0.5090	0.4223	0.1940	0.4264	0.3335	0.4584	0.3843	0.3231	1.0000	-0.0618	-0.3227
SEX	0.0854	0.0770	-0.0285	-0.0362	-0.0288	-0.0555	-0.1080	0.0216	0.0877	-0.0618	1.0000	0.0697
GRADE 1	-0.2855	-0.1531	-0.2541	-0.1033	-0.2151	-0.2137	-0.1852	-0.0837	0.0636	-0.3227	0.0697	1.0000
GRADE 2	0.0686	0.0713	-0.1020	-0.0974	0.0287	-0.0206	0.2718	0.0694	0.0834	0.2200	-0.0531	-0.4903
RACE	0.2109	0.1330	0.0289	0.1188	-0.0734	-0.0009	-0.0783	0.1419	-0.1217	0.1247	0.0858	-0.1002
PLANS	-0.1141	-0.1270	-0.0195	-0.2188	-0.0335	-0.0967	0.3054	0.0261	0.0575	0.0908	-0.1521	-0.0327
PURE VOC	0.1964	-0.0074	-0.1361	0.1899	0.0518	0.0589	-0.1301	-0.2157	0.0330	-0.1023	-0.0540	-0.0392
OCC-SPEC	0.1629	0.1258	0.1191	0.1336	0.0343	0.1153	0.0691	-0.0550	0.0945	0.2472	-0.0561	-0.1305
GEN OCC	-0.0934	-0.0351	-0.1924	-0.0408	-0.0772	0.0229	-0.2771	-0.1683	-0.1459	-0.3035	0.0880	-0.0842
S.A.I.V.	-0.0039	-0.0022	-0.0690	0.0424	-0.0451	-0.1116	-0.0502	-0.1935	-0.0384	-0.1669	0.2931	-0.1271
SALARIES	-0.1308	-0.0544	-0.0848	-0.1702	-0.0382	-0.1110	-0.1689	0.0118	-0.0537	-0.0575	0.0895	0.0237
VALUES	0.0368	0.0241	0.0180	-0.0364	0.0257	0.1125	-0.2096	0.1012	0.1218	0.0537	-0.0475	-0.0083
JOB VOC.	0.0064	0.0171	-0.1919	-0.1157	-0.0358	0.0414	-0.2107	-0.0320	-0.1283	-0.0617	-0.1497	-0.0347

	GRADE 2	RACE	PLANS	PURE VOC	OCC-SPEC	GEN OCC	S.A.I.V.	SALARIES	VALUES	JOB VOC.
READING	0.0686	0.2109	-0.1141	0.1964	0.1629	-0.0934	-0.0039	-0.1308	0.0368	0.0064
GUIDANCE	0.0713	0.1330	-0.1270	-0.0074	0.1258	-0.0351	-0.0022	-0.0544	0.0241	0.0171
FILMTAPE	-0.1020	0.0289	-0.0195	-0.1361	0.1191	-0.1924	-0.0690	-0.0848	0.0180	-0.1919
COMPUTER	-0.0974	0.1188	-0.2188	0.1899	0.1336	-0.0408	0.0424	-0.1702	-0.0364	-0.1157
MICROFI.	0.0287	-0.0734	-0.0335	0.0518	0.0343	-0.0772	-0.0451	-0.0382	0.0257	-0.0358
SORTCRDS	-0.0206	-0.0009	-0.0967	0.0589	0.1153	0.0229	-0.1116	-0.1110	0.1125	0.0414
WORK EXP	0.2718	-0.0783	0.3054	-0.1301	0.0691	-0.2771	-0.0502	-0.1689	-0.2096	-0.2107
CAREER D	0.0694	0.1419	0.0261	-0.2157	-0.0550	-0.1683	-0.1935	0.0118	0.1012	-0.0320
PLANT T.	0.0834	-0.1217	0.0575	0.0330	0.0945	-0.1459	-0.0384	-0.0537	0.1218	-0.1283
PLAN CRS	0.2200	0.1247	0.0908	-0.1023	0.2472	-0.3035	-0.1669	-0.0575	0.0537	-0.0617
SEX	-0.0531	0.0858	-0.1521	-0.0540	-0.0561	0.0880	0.2931	0.0895	-0.0475	-0.1497
GRADE 1	-0.4903	-0.1002	-0.0327	-0.0392	-0.1305	-0.0842	-0.1271	0.0237	-0.0083	-0.0347
GRADE 2	1.0000	-0.0679	0.1932	-0.0822	0.0496	0.0416	0.0939	0.0722	-0.0185	0.0140
RACE	-0.0679	1.0000	-0.1611	-0.1443	-0.1489	-0.0874	-0.0470	-0.1343	-0.0360	-0.1684
PLANS	0.1932	-0.1611	1.0000	-0.2344	-0.1112	-0.3309	-0.1086	-0.1179	-0.2531	-0.2658
PURE VOC	-0.0822	-0.1443	-0.2344	1.0000	0.2965	0.3331	0.3929	0.1559	0.2260	0.5511
OCC-SPEC	0.0496	-0.1489	-0.1112	0.2965	1.0000	0.1389	0.1625	0.2657	-0.0328	0.3012
GEN OCC	0.0416	-0.0874	-0.3309	0.3331	0.1389	1.0000	0.3756	0.2444	0.1978	0.4233
S.A.I.V.	0.0939	-0.0470	-0.1086	0.3929	0.1625	0.3756	1.0000	0.3115	0.1305	0.3168
SALARIES	0.0722	-0.1343	-0.1179	0.1559	0.2657	0.2444	0.3115	1.0000	0.1131	0.4371
VALUES	-0.0185	-0.0360	-0.2531	0.2260	-0.0328	0.1978	0.1305	0.1131	1.0000	0.2629
JOB VOC.	0.0140	-0.1684	-0.2658	0.5511	0.3012	0.4233	0.3168	0.4371	0.2629	1.0000

Table 28

Correlation Matrix for the Nonpov/Publications School, Independent and Dependent Variables

CORRELATION MATRIX NONPOV/PUBLICATIONS

	READING	GUIDANCE	FILMTAPE	COMPUTER	MICROFI.	SORTCRDS	WORK EXP	CAREER D	PLANT T.	PLAN CRS	SEX	GRADE 1
READING	1.0000	0.5240	0.4970	0.2390	0.3304	0.0295	0.2889	0.1541	0.1733	0.3658	0.1221	-0.2944
GUIDANCE	0.5240	1.0000	0.3252	0.2716	0.3400	-0.0698	0.2629	0.5113	0.2338	0.2088	0.3534	-0.4533
FILMTAPE	0.4970	0.3252	1.0000	0.2057	0.4858	0.1468	0.3691	0.3128	0.0918	0.2634	0.0280	-0.1360
COMPUTER	0.2390	0.2716	0.2057	1.0000	0.6328	0.1043	-0.0274	0.1817	0.1359	0.0427	-0.1396	-0.2029
MICROFI.	0.3304	0.3400	0.4858	0.6328	1.0000	0.0764	0.0511	0.2017	0.2271	0.1739	-0.1792	-0.1578
SORTCRDS	0.0295	-0.0698	0.1468	0.1043	0.0764	1.0000	0.1613	0.0334	0.1872	0.1867	-0.0342	-0.1928
WORK EXP	0.2889	0.2629	0.3691	-0.0274	0.0511	0.1613	1.0000	0.3353	0.3944	0.4615	0.3069	-0.0779
CAREER D	0.1541	0.5113	0.3128	0.1817	0.2017	0.0334	0.3353	1.0000	0.1524	0.2905	0.3116	-0.2879
PLANT T.	0.1733	0.2338	0.0918	0.1359	0.2271	0.1872	0.3944	0.1524	1.0000	0.2546	0.0274	-0.1905
PLAN CRS	0.3658	0.2088	0.2634	0.0427	0.1739	0.1867	0.4615	0.2905	0.2546	1.0000	0.2603	-0.2105
SEX	0.1221	0.3534	0.0280	-0.1396	-0.1792	-0.0342	0.3069	0.3116	0.0274	0.2603	1.0000	-0.1042
GRADE 1	-0.2944	-0.4533	-0.1360	-0.2029	-0.1578	-0.1928	-0.0779	-0.2879	-0.1905	-0.2105	-0.1042	1.0000
GRADE 2	0.2837	0.5346	0.2498	0.3033	0.1763	0.0799	0.3295	0.6367	0.3323	0.2334	0.1909	-0.5334
RACE	-0.0100	0.0127	0.1298	0.0767	0.0746	-0.0029	0.1552	0.0332	0.1961	0.2427	0.0073	-0.0588
PLANS	-0.0317	-0.3373	-0.2449	-0.2293	-0.2187	-0.1052	0.0814	-0.4770	-0.0200	0.0129	-0.1592	0.3352
PURE VOC	0.1961	0.3982	0.0783	0.0889	0.0308	-0.1809	-0.0809	0.2890	-0.1194	-0.2412	0.3034	-0.2996
OCC-SPEC	0.1896	0.1656	0.1129	0.2100	0.1848	0.0516	0.0071	0.2578	0.0365	0.1056	0.2897	-0.2875
GEN OCC	0.2078	0.3712	0.0531	0.2011	0.1516	-0.1566	-0.0233	0.3198	-0.0588	0.0153	0.2480	-0.2045
S.A.I.V.	0.0639	0.2060	0.1351	0.1773	0.0887	-0.0535	-0.0287	0.3000	-0.0442	0.0153	0.1686	-0.2458
SALARIES	0.2016	0.0854	-0.0695	0.0539	0.0999	0.0152	0.0116	-0.1130	0.0429	-0.0030	-0.1143	-0.0787
VALUES	-0.1120	-0.0534	-0.1683	0.0665	0.0602	0.0715	-0.1316	-0.1315	-0.0341	0.0432	0.0867	-0.1994
JOB VOC.	0.1520	0.2397	0.1273	0.0701	0.0587	-0.1311	0.0298	0.3969	-0.0351	-0.1099	0.2556	-0.1438

	GRADE 2	RACE	PLANS	PURE VOC	OCC-SPEC	GEN OCC	S.A.I.V.	SALARIES	VALUES	JOB VOC.
READING	0.2837	-0.0100	-0.0317	0.1961	0.1896	0.2078	0.0639	0.2016	-0.1120	0.1520
GUIDANCE	0.5346	0.0127	-0.3373	0.3982	0.1656	0.3712	0.2060	0.0854	-0.0534	0.2397
FILMTAPE	0.2498	0.1298	-0.2449	0.0783	0.1129	0.0531	0.1351	-0.0695	-0.1683	0.1273
COMPUTER	0.3033	0.0767	-0.2293	0.0889	0.2100	0.2011	0.1773	0.0539	0.0665	0.0701
MICROFI.	0.1763	0.0746	-0.2187	0.0308	0.1848	0.1516	0.0887	0.0999	0.0602	0.0587
SORTCRDS	0.0799	-0.0029	-0.1052	-0.1809	0.0516	-0.1566	-0.0535	0.0152	0.0715	-0.1311
WORK EXP	0.3295	0.1552	0.0814	-0.0809	0.0071	-0.0233	-0.0287	0.0116	-0.1316	0.0298
CAREER D	0.6367	0.0332	-0.4770	0.2890	0.2578	0.3198	0.3000	-0.1130	-0.1315	0.3969
PLANT T.	0.3323	0.1961	-0.0200	-0.1194	0.0365	-0.0588	-0.0442	0.0429	-0.0341	-0.0351
PLAN CRS	0.2334	0.2427	0.0129	-0.2412	0.1056	0.0153	0.0153	-0.0030	0.0432	-0.1099
SEX	0.1909	0.0073	-0.1592	0.3034	0.2897	0.2480	0.1686	-0.1143	0.0867	0.2556
GRADE 1	-0.5334	-0.0588	0.3352	-0.2996	-0.2875	-0.2045	-0.2458	-0.0787	-0.1994	-0.1438
GRADE 2	1.0000	-0.0514	-0.3559	0.2523	0.2424	0.2036	0.3065	0.0004	-0.0716	0.3070
RACE	-0.0514	1.0000	-0.1545	-0.1600	0.1595	-0.0275	0.2033	-0.0666	0.0901	-0.0288
PLANS	-0.3559	-0.1545	1.0000	-0.3829	-0.2964	-0.2331	-0.3742	-0.1510	-0.1069	-0.2958
PURE VOC	0.2523	-0.1600	-0.3829	1.0000	0.4819	0.5493	0.3040	0.0552	0.0667	0.6992
OCC-SPEC	0.2424	0.1595	-0.2964	0.4819	1.0000	0.4339	0.2577	0.0101	0.1636	0.5824
GEN OCC	0.2036	-0.0275	-0.2331	0.5493	0.4339	1.0000	0.3204	0.1198	0.0508	0.5819
S.A.I.V.	0.3065	0.2033	-0.3742	0.3040	0.2577	0.3204	1.0000	0.0683	0.0315	0.5420
SALARIES	0.0004	-0.0666	-0.1510	0.0552	0.0101	0.1198	0.0683	1.0000	0.0357	0.0416
VALUES	-0.0716	0.0901	-0.1069	0.0667	0.1636	0.0508	0.0315	0.0357	1.0000	-0.0430
JOB VOC.	0.3070	-.0288	-0.2958	0.6992	0.5824	0.5819	0.5420	0.0416	-0.0430	1.0000

Table 29

Correlation Matrix for the Nonpov/Instruction School, Independent and Dependent Variables

CORRELATION MATRIX NONPOV/INSTRUCTION

	READING	GUIDANCE	FILMTAPE	COMPUTER	MICROFI.	SORTCRDS	WORK EXP	CAREER D	PLANT T.	PLAN CRS	SEX	GRADE 1
READING	1.0000	0.1308	0.4125	0.0882	0.0815	0.1352	0.1823	0.1123	-0.0164	0.2194	-0.0763	0.0968
GUIDANCE	0.1308	1.0000	0.0683	-0.0110	0.1104	0.0829	0.1083	0.1005	0.2121	0.3181	-0.0090	0.1040
FILMTAPE	0.4125	0.0683	1.0000	0.1937	0.2791	0.0629	0.0121	0.0833	0.1324	0.1425	-0.1168	0.1249
COMPUTER	0.0882	-0.0110	0.1937	1.0000	0.1068	0.1208	0.0811	0.1454	0.0449	0.0998	-0.1072	0.2495
MICROFI.	0.0815	0.1104	0.2791	0.1068	1.0000	0.2330	0.2058	0.0939	0.0269	0.1097	-0.1881	-0.2142
SORTCRDS	0.1352	0.0829	0.0629	0.1208	0.2330	1.0000	0.4192	0.1043	0.0854	0.2892	-0.0329	-0.1349
WORK EXP	0.1823	0.1083	0.0121	0.0811	0.2058	0.4192	1.0000	0.0153	0.1308	0.4731	-0.0321	-0.0660
CAREER D	0.1123	0.1005	0.0833	0.1454	0.0939	0.1043	0.0153	1.0000	0.1569	0.1356	-0.0404	0.2182
PLANT T.	-0.0164	0.2121	0.1324	0.0449	0.0269	0.0854	0.1308	0.1569	1.0000	0.2194	0.0119	0.0486
PLAN CRS	0.2194	0.3181	0.1425	0.0998	0.1097	0.2892	0.4731	0.1356	0.2194	1.0000	0.2739	-0.0149
SEX	-0.0763	-0.0090	-0.1168	-0.1072	-0.1881	-0.0329	-0.0321	-0.0404	0.0119	0.2739	1.0000	0.0391
GRADE 1	0.0968	0.1040	0.1249	0.2495	-0.2142	-0.1349	-0.0660	0.2182	0.0486	-0.0149	0.0391	1.0000
GRADE 2	-0.0233	0.0160	-0.0078	-0.0538	0.2875	0.1228	0.1405	0.0810	0.0013	0.1251	-0.0437	-0.4519
RACE	0.0697	0.3263	0.0457	-0.0615	0.0161	0.0008	0.1211	0.1817	0.3160	0.1760	-0.0182	-0.0845
PLANS	0.0585	-0.1695	0.1110	0.0079	-0.0146	0.0525	0.1922	-0.1240	-0.0804	0.1410	0.0084	-0.1547
PURE VOC	-0.1298	0.0196	-0.0915	0.1219	-0.0657	-0.0687	-0.2617	0.1000	-0.0973	-0.3562	-0.0926	0.2866
OCC-SPEC	-0.0022	0.2446	-0.0451	0.0743	0.1564	0.1164	0.2061	0.0635	0.1800	0.1090	-0.0126	-0.0081
GEN OCC	-0.1429	0.0959	-0.1363	0.1957	-0.0582	-0.1576	-0.2352	0.1387	-0.0395	-0.2527	-0.0182	0.4294
S.A.I.V.	0.0702	0.1527	-0.1492	-0.0395	-0.0223	-0.1728	-0.1739	0.1982	-0.1073	-0.1512	0.0751	0.2995
SALARIES	-0.0815	0.1421	-0.1619	-0.0680	0.0046	-0.0623	-0.0803	0.0028	-0.0181	-0.0833	-0.0696	0.1631
VALUES	-0.2175	-0.0201	-0.0678	0.0907	-0.0583	-0.2127	-0.1825	0.0879	-0.0902	-0.0410	0.1382	0.1498
JOB VOC.	-0.1108	0.0924	-0.1913	0.1997	-0.1269	-0.1834	-0.2872	0.1168	-0.1018	-0.2990	-0.0513	0.3132

	GRADE 2	RACE	PLANS	PURE VOC	OCC-SPEC	GEN OCC	S.A.I.V.	SALARIES	VALUES	JOB VOC.
READING	-0.0233	0.0697	0.0585	-0.1298	-0.0022	-0.1429	0.0702	-0.0815	-0.2175	-0.1108
GUIDANCE	0.0160	0.3263	-0.1695	0.0196	0.2446	0.0959	0.1527	0.1421	-0.0201	0.0924
FILMTAPE	-0.0078	0.0457	0.1110	-0.0915	-0.0451	-0.1363	-0.1492	-0.1619	-0.0678	-0.1913
COMPUTER	-0.0538	-0.0615	0.0079	0.1219	0.0743	0.1957	-0.0395	-0.0680	0.0907	0.1997
MICROFI.	0.2875	0.0161	-0.0146	-0.0657	0.1564	-0.0582	-0.0223	0.0046	-0.0583	-0.1269
SORTCRDS	0.1228	0.0008	0.0525	-0.0687	0.1164	-0.1576	-0.1728	-0.0623	-0.2127	-0.1834
WORK EXP	0.1405	0.1211	0.1922	-0.2617	0.2061	-0.2352	-0.1739	-0.0803	-0.1825	-0.2872
CAREER D	0.0810	0.1817	-0.1240	0.1000	0.0635	0.1387	0.1982	0.0028	0.0879	0.1168
PLANT T.	0.0013	0.3160	-0.0904	-0.0973	0.1800	-0.0395	-0.1073	-0.0181	-0.0902	-0.1018
PLAN CRS	0.1251	0.1760	0.1410	-0.3562	0.1090	-0.2527	-0.1512	-0.0833	-0.0410	-0.2990
SEX	-0.0437	-0.0182	0.0084	-0.0926	-0.0126	-0.0182	0.0751	-0.0696	0.1382	-0.0513
GRADE 1	-0.4519	-0.0845	-0.1547	0.2866	-0.0081	0.4294	0.2995	0.1631	0.1498	0.3132
GRADE 2	1.0000	0.0190	0.2411	0.0393	0.1119	-0.1055	0.0338	-0.0303	0.0014	-0.1161
RACE	0.0190	1.0000	-0.1881	-0.1560	0.1068	-0.2016	-0.1556	0.1106	-0.3221	-0.1843
PLANS	0.2411	-0.1881	1.0000	-0.2944	-0.1980	-0.3278	-0.1804	-0.1502	-0.1700	-0.2843
PURE VOC	0.0393	-0.1560	-0.2944	1.0000	0.1203	0.4409	0.4367	0.1966	0.3078	0.6753
OCC-SPEC	0.1119	0.1068	-0.1980	0.1203	1.0000	0.1992	0.1115	0.0362	-0.0277	0.1462
GEN OCC	-0.1055	-0.2016	-0.3278	0.4409	0.1992	1.0000	0.3895	0.1279	0.2049	0.5444
S.A.I.V.	0.0338	-0.1556	-0.1804	0.4367	0.1115	0.3895	1.0000	0.2361	0.3251	0.5056
SALARIES	-0.0303	0.1106	-0.1502	0.1966	0.0362	0.1279	0.2361	1.0000	0.2380	0.2651
VALUES	0.0014	-0.3221	-0.1700	0.3078	-0.0277	0.2049	0.3251	0.2380	1.0000	0.2937
JOB VOC.	-0.1161	-0.1843	-0.2843	0.6753	0.1462	0.5444	0.5056	0.2651	0.2937	1.0000

Table 30

Correlation Matrix for the Nonpov/Minimum School,
Independent and Dependent Variables

CORRELATION MATRIX NONPOV/MINIMUM

	READING	GUIDANCE	FILMTAPE	COMPUTER	MICROFI.	SORTCRDS	WORK EXP	CAREER D	PLANT T.	PLAN CRS	SEX	GRADE 1
READING	1.0000	0.2905	0.3373	0.0532	0.1483	0.0870	-0.0393	-0.0151	0.0464	-0.0253	0.1016	-0.0625
GUIDANCE	0.2905	1.0000	0.1065	0.0787	0.2055	0.2833	-0.0720	0.0009	0.0060	0.0643	0.1944	-0.2078
FILMTAPE	0.3373	0.1065	1.0000	-0.0036	0.2260	0.1326	0.1658	-0.0230	-0.0058	0.3002	-0.0581	-0.1311
COMPUTER	0.0532	0.0787	-0.0036	1.0000	0.1361	0.1803	0.1355	0.2509	0.2990	0.1240	0.1480	0.0386
MICROFI.	0.1483	0.2055	0.2260	0.1361	1.0000	0.3749	0.1195	0.1030	0.1915	0.1415	-0.1181	-0.0884
SORTCRDS	0.0870	0.2833	0.1326	0.1803	0.3749	1.0000	0.2447	0.1035	-0.1062	0.1675	0.0975	-0.1625
WORK EXP	-0.0393	-0.0720	0.1658	0.1355	0.1195	0.2447	1.0000	0.0518	0.1514	0.5440	-0.0130	-0.0663
CAREER D	-0.0151	0.0009	-0.0230	0.2509	0.1030	0.1035	0.0518	1.0000	0.1802	0.0893	-0.0502	0.1502
PLANT T.	0.0464	0.0060	-0.0058	0.2990	0.1915	-0.1062	0.1514	0.1802	1.0000	0.3244	0.0339	0.0253
PLAN CRS	-0.0253	0.0643	0.3002	0.1240	0.1415	0.1675	0.5440	0.0893	0.3244	1.0000	0.0499	0.0214
SEX	0.1016	0.1944	-0.0581	0.1480	-0.1181	0.0975	-0.0130	-0.0502	0.0339	0.0499	1.0000	-0.1106
GRADE 1	-0.0625	-0.2078	-0.1311	0.0386	-0.0884	-0.1625	-0.0663	0.1502	0.0253	0.0214	-0.1106	1.0000
GRADE 2	0.0510	0.0446	0.0899	-0.0599	0.0591	-0.0610	0.2254	-0.2633	0.0695	0.1644	0.0160	-0.5057
RACE	0.1855	0.1092	0.0888	0.1911	0.2819	0.1563	0.1658	0.2795	0.2606	0.2349	-0.0081	-0.0365
PLANS	-0.0476	-0.0672	0.2144	-0.0073	-0.0440	-0.0622	0.2591	0.0657	0.1221	0.2388	-0.0946	-0.0148
PURE VOC	-0.0513	0.0632	-0.2225	-0.0125	-0.1903	-0.2022	-0.1813	-0.0872	-0.0642	-0.1975	-0.0248	-0.0181
OCC-SPEC	0.0110	0.1741	-0.0589	0.0388	0.0193	0.0346	-0.0923	0.0356	-0.0594	0.0158	0.3289	-0.1905
GEN OCC	-0.2028	0.0627	-0.2294	0.0157	-0.1333	-0.0666	-0.1874	-0.1790	-0.1678	-0.1044	0.1067	0.0060
S.A.I.V.	0.0576	0.0679	-0.0416	-0.0570	0.0435	-0.0067	-0.1359	-0.2079	-0.0804	-0.0223	-0.0054	-0.1027
SALARIES	-0.1232	-0.3498	-0.1470	0.1416	-0.1457	-0.3240	-0.0234	0.0090	-0.0181	-0.2288	-0.1381	0.1400
VALUES	-0.2428	0.0817	-0.1326	-0.0678	0.0205	0.0567	0.0797	0.0997	-0.0007	0.0574	0.0836	-0.0947
JOB VOC.	-0.1159	0.1172	-0.2291	-0.0667	-0.0093	-0.1949	-0.2229	0.0416	0.0192	-0.1989	-0.0129	0.0899

	GRADE 2	RACE	PLANS	PURE VOC	OCC-SPEC	GEN OCC	S.A.I.V.	SALARIES	VALUES	JOB VOC.
READING	0.0510	0.1855	-0.0476	-0.0513	0.0110	-0.2028	0.0576	-0.1232	-0.2428	-0.1159
GUIDANCE	0.0446	0.1092	-0.0672	0.0632	0.1741	0.0627	0.0679	-0.3498	0.0817	0.1172
FILMTAPE	0.0899	0.0888	0.2144	-0.2225	-0.0589	-0.2294	-0.0416	-0.1470	-0.1326	-0.2291
COMPUTER	-0.0599	0.1911	-0.0073	-0.0125	0.0388	0.0157	-0.0570	0.1416	-0.0678	-0.0667
MICROFI.	0.0591	0.2819	-0.0440	-0.1903	0.0193	-0.1333	0.0435	-0.1457	0.0205	-0.0093
SORTCRDS	-0.0610	0.1563	-0.0622	-0.2022	0.0346	-0.0666	-0.0067	-0.3240	0.0567	-0.1949
WORK EXP	0.2254	0.1658	0.2591	-0.1813	-0.0923	-0.1874	-0.1359	-0.0234	0.0797	-0.2229
CAREER D	-0.2633	0.2795	0.0657	-0.0872	0.0356	-0.1790	-0.2079	0.0090	0.0997	0.0416
PLANT T.	0.0695	0.2606	0.1221	-0.0642	-0.0594	-0.1678	-0.0804	-0.0181	-0.0007	0.0192
PLAN CRS	0.1644	0.2349	0.2388	-0.1975	0.0158	-0.1044	-0.0223	-0.2288	0.0574	-0.1989
SEX	0.0160	-0.0081	-0.0946	-0.0248	0.3289	0.1067	-0.0054	-0.1381	0.0836	-0.0129
GRADE 1	-0.5057	-0.0365	-0.0148	-0.0181	-0.1905	0.0060	-0.1027	0.1400	-0.0947	0.0899
GRADE 2	1.0000	-0.0821	0.0776	0.1221	0.1679	0.1087	0.2575	-0.0506	-0.0699	0.1764
RACE	-0.0821	1.0000	-0.0693	-0.1170	0.1176	-0.1891	-0.1960	-0.0497	-0.0544	0.0377
PLANS	0.0776	-0.0693	1.0000	-0.1338	-0.2419	-0.2914	-0.2198	-0.1352	-0.0210	-0.3004
PURE VOC	0.1221	-0.1170	-0.1338	1.0000	0.0916	0.3632	0.1395	0.3268	-0.0497	0.4952
OCC-SPEC	0.1679	0.1176	-0.2419	0.0916	1.0000	0.2167	0.1828	0.0314	-0.0556	0.1240
GEN OCC	0.1087	-0.1891	-0.2914	0.3632	0.2167	1.0000	0.3097	0.0403	0.0475	0.3867
S.A.I.V.	0.2575	-0.1960	-0.2198	0.1395	0.1828	0.3097	1.0000	0.1121	0.1483	0.1687
SALARIES	-0.0506	-0.0497	-0.1352	0.3268	0.0314	0.0403	0.1121	1.0000	0.0465	0.1233
VALUES	-0.0699	-0.0544	-0.0210	-0.0497	-0.0556	0.0475	0.1483	0.0465	1.0000	-0.0360
JOB VOC.	0.1764	0.0377	-0.3004	0.4952	0.1240	0.3867	0.1687	0.1233	-0.0360	1.0000

Table 31

Correlation Matrix for the Pov/Computer School,
Independent and Dependent Variables

CORRELATION MATRIX POV/COMPUTER

	READING	GUIDANCE	FILMTAPE	COMPUTER	MICROFI.	SORTCRDS	WORK EXP	CAREER D	PLANT T.	PLAN CRS	SEX	GRADE 1
READING	1.0000	0.2300	0.3720	-0.0270	0.1843	0.1048	0.1069	0.1070	0.0955	0.1846	0.0442	-0.1535
GUIDANCE	0.2300	1.0000	0.3066	0.3711	0.1264	0.0393	0.0849	0.3838	0.1528	0.3456	0.1261	0.0758
FILMTAPE	0.3720	0.3066	1.0000	0.0656	0.2538	0.1233	0.1725	0.1467	0.2039	0.3224	-0.1297	-0.0128
COMPUTER	-0.0270	0.3711	0.0656	1.0000	0.1097	0.0756	0.0442	0.3330	0.1134	0.1239	0.0888	0.0334
MICROFI.	0.1843	0.1264	0.2538	0.1097	1.0000	0.3748	0.1418	0.2524	0.1224	0.1767	-0.1236	-0.0472
SORTCRDS	0.1048	0.0393	0.1233	0.0756	0.3748	1.0000	0.0772	0.2046	0.0608	0.0530	0.0325	-0.1188
WORK EXP	0.1069	0.0849	0.1725	0.0442	0.1418	0.0772	1.0000	0.1788	0.4096	0.2317	0.0379	0.2235
CAREER D	0.1070	0.3838	0.1467	0.3330	0.2524	0.2046	0.1788	1.0000	0.2051	0.1932	0.0695	0.0015
PLANT T.	0.0955	0.1528	0.2039	0.1134	0.1224	0.0608	0.4096	0.2051	1.0000	0.2246	-0.1379	0.3860
PLAN CRS	0.1846	0.3456	0.3224	0.1239	0.1767	0.0530	0.2317	0.1932	0.2246	1.0000	0.0432	0.0262
SEX	0.0442	0.1261	-0.1297	0.0888	-0.1236	0.0325	0.0379	0.0695	-0.1379	0.0432	1.0000	-0.2589
GRADE 1	-0.1535	0.0758	-0.0128	0.0334	-0.0472	-0.1188	0.2235	0.0015	0.3860	0.0262	-0.2589	1.0000
GRADE 2	0.1234	0.2750	0.0910	0.2037	-0.0267	0.1839	0.2034	0.3910	0.1099	0.1280	0.1396	-0.3050
RACE	0.1206	0.2487	0.0938	0.0484	0.0700	-0.0125	0.1745	0.0060	0.0481	0.0684	0.0118	0.0319
PLANS	0.0337	-0.0675	-0.1256	-0.0365	-0.1701	0.0236	0.1687	-0.0842	0.1619	-0.0981	0.2203	0.0425
PURE VOC	-0.0630	0.0113	0.0226	0.1039	0.0545	-0.0338	0.0107	0.1927	0.1337	-0.0419	-0.0584	-0.0496
OCC-SPEC	0.0871	0.0112	0.0703	-0.0157	0.0094	0.0423	-0.0585	0.1121	0.0184	0.0717	-0.1390	0.0012
GEN OCC	0.1422	0.2717	0.1696	0.1773	0.2175	-0.0317	0.1533	0.1662	0.0747	0.1537	0.1059	-0.0292
S.A.I.V.	0.0891	0.0881	-0.0316	0.1750	0.1284	-0.1009	0.0528	0.1072	0.0177	0.1381	0.0330	0.0286
SALARIES	-0.0580	-0.0327	-0.1336	0.1658	0.0355	0.0211	-0.0937	0.0269	-0.0313	-0.0169	0.1141	-0.0040
VALUES	0.1542	0.0358	0.0350	-0.0038	0.0118	-0.0816	0.0566	0.1147	0.0797	-0.0572	0.0989	-0.0511
JOB VOC.	-0.0262	0.0248	-0.0134	0.0635	-0.0378	-0.0382	-0.0469	0.0647	0.1215	0.0371	-0.0309	0.0132

	GRADE 2	RACE	PLANS	PURE VOC	OCC-SPEC	GEN OCC	S.A.I.V.	SALARIES	VALUES	JOB VOC.
READING	0.1234	0.1206	0.0337	-0.0630	0.0871	0.1422	0.0891	-0.0580	0.1542	-0.0262
GUIDANCE	0.2750	0.2487	-0.0675	0.0113	0.0112	0.2717	0.0881	-0.0327	0.0358	0.0248
FILMTAPE	0.0910	0.0938	-0.1256	0.0226	0.0703	0.1696	-0.0316	-0.1336	0.0350	-0.0134
COMPUTER	0.2037	0.0484	-0.0365	0.1039	-0.0157	0.1773	0.1750	0.1658	-0.0038	0.0635
MICROFI.	-0.0267	0.0700	-0.1701	0.0545	0.0094	0.2175	0.1284	0.0355	0.0118	-0.0378
SORTCRDS	0.1839	-0.0125	0.0236	-0.0338	0.0423	-0.0317	-0.1009	0.0211	-0.0816	-0.0382
WORK EXP	0.2034	0.1745	0.1687	0.0107	-0.0585	0.1533	0.0528	-0.0937	0.0566	-0.0469
CAREER D	0.3910	0.0060	-0.0842	0.1927	0.1121	0.1662	0.1072	0.0269	0.1147	0.0647
PLANT T.	0.1099	0.0481	0.1619	0.1337	0.0184	0.0747	0.0177	-0.0313	0.0797	0.1215
PLAN CRS	0.1280	0.0684	-0.0981	-0.0419	0.0717	0.1537	0.1381	-0.0169	-0.0572	0.0371
SEX	0.1396	0.0118	0.2203	-0.0584	-0.1390	0.1059	0.0330	0.1141	0.0989	-0.0309
GRADE 1	-0.3050	0.0319	0.0425	-0.0496	0.0012	-0.0292	0.0286	-0.0040	-0.0511	0.0132
GRADE 2	1.0000	0.0615	0.2303	-0.0564	-0.2021	0.0015	-0.1344	-0.2504	0.0131	-0.0779
RACE	0.0615	1.0000	0.0599	-0.1840	0.0072	-0.0828	0.0285	0.0637	0.0690	-0.0934
PLANS	0.2303	0.0599	1.0000	-0.1938	-0.3380	-0.2207	-0.1895	-0.1204	-0.1117	-0.2479
PURE VOC	-0.0564	-0.1840	-0.1938	1.0000	0.3062	0.3737	0.4181	0.1673	0.3318	0.5874
OCC-SPEC	-0.2021	0.0072	-0.3380	0.3062	1.0000	0.1567	0.2854	0.1528	0.1171	0.2551
GEN OCC	0.0015	-0.0828	-0.2207	0.3737	0.1567	1.0000	0.3436	0.1713	0.0928	0.3250
S.A.I.V.	-0.1344	0.0285	-0.1895	0.4181	0.2854	0.3436	1.0000	0.1459	0.1385	0.2666
SALARIES	-0.2504	0.0637	-0.1204	0.1673	0.1528	0.1713	0.1459	1.0000	0.1468	0.2230
VALUES	0.0131	0.0690	-0.1117	0.3318	0.1171	0.0928	0.1385	0.1468	1.0000	0.2260
JOB VOC.	-0.0779	-0.0934	-0.2479	0.5874	0.2551	0.3250	0.2666	0.2230	0.2260	1.0000

Table 32

Correlat[illegible]ix for the Pov/Experience School,
Indep[illegible]nt and Dependent Variables

CORRELATION MATRIX POV/EXPERIENCE

	READING	GUIDANCE	FILMTAPE	COMPUTER	MICROFI.	SORTCRDS	WORK EXP	CAREER D	PLANT T.	PLAN CRS	SEX	GRADE 1
READING	1.0000	0.3351	0.1482	0.1516	0.1708	0.1383	0.0513	0.0947	0.1552	0.1827	0.2733	-0.1428
GUIDANCE	0.3351	1.0000	0.1610	0.3123	0.1633	0.1860	0.2999	0.1149	0.2429	0.2979	-0.0662	0.0717
FILMTAPE	0.1482	0.1610	1.0000	0.3165	0.2792	0.3714	0.3034	0.1747	0.3270	0.1689	-0.0244	0.0939
COMPUTER	0.1516	0.3123	0.3165	1.0000	0.5332	0.4724	0.5519	0.3473	0.6710	0.5637	0.0034	0.1115
MICROFI.	0.1708	0.1633	0.2792	0.5332	1.0000	0.5942	0.2244	0.3720	0.6389	0.4229	-0.1425	0.2805
SORTCRDS	0.1383	0.1860	0.3714	0.4724	0.5942	1.0000	0.3466	0.2866	0.5128	0.3052	-0.1264	0.2421
WORK EXP	0.0513	0.2999	0.3034	0.5519	0.2244	0.3466	1.0000	0.3432	0.4527	0.5231	-0.0058	0.0989
CAREER D	0.0947	0.1149	0.1747	0.3473	0.3720	0.2866	0.3432	1.0000	0.4629	0.4424	0.2201	0.1041
PLANT T.	0.1552	0.2429	0.3270	0.6710	0.6389	0.5128	0.4527	0.4629	1.0000	0.4512	-0.1365	0.2075
PLAN CRS	0.1827	0.2979	0.1689	0.5637	0.4229	0.3052	0.5231	0.4424	0.4512	1.0000	0.0116	-0.0487
SEX	0.2733	-0.0662	-0.0244	0.0034	-0.1425	-0.1264	-0.0058	0.2201	-0.1365	0.0116	1.0000	0.0229
GRADE 1	-0.1428	0.0717	0.0939	0.1115	0.2805	0.2421	0.0989	0.1041	0.2075	-0.0487	0.0229	1.0000
GRADE 2	0.0526	0.1617	-0.1276	0.0249	0.0439	-0.0218	0.0941	0.0810	0.0517	-0.0311	-0.1230	-0.4126
RACE	0.0516	-0.2238	0.1386	-0.1293	-0.1394	-0.0478	0.1251	0.1613	-0.1094	0.1324	0.1378	-0.2936
PLANS	-0.2750	-0.1607	-0.0422	-0.0601	-0.0594	-0.1143	0.1951	-0.0112	0.0233	-0.0578	-0.0062	0.0674
PURE VOC	0.0264	0.3407	-0.0904	-0.1041	-0.0687	-0.1370	-0.1709	-0.2288	-0.2162	-0.1637	-0.1157	0.0862
OCC-SPEC	-0.0543	0.2351	-0.2485	-0.1032	-0.1215	-0.3259	-0.1111	-0.1705	-0.1509	0.1070	-0.2080	-0.0445
GEN OCC	-0.0120	0.2717	-0.0372	-0.0662	-0.1679	-0.1563	-0.1732	-0.0486	-0.1655	-0.0708	-0.0958	0.0564
S.A.I.V.	-0.0077	0.1512	-0.1270	-0.1858	-0.1918	-0.1855	-0.2018	-0.0108	-0.1990	-0.0487	0.0671	0.1549
SALARIES	-0.3284	0.0307	-0.1790	-0.1650	-0.1982	-0.2112	-0.0047	-0.0468	-0.1607	-0.1503	-0.1005	-0.2069
VALUES	-0.0070	0.1729	-0.1626	-0.1553	-0.0684	-0.2555	-0.0624	-0.0018	-0.1527	0.0744	0.0924	-0.0431
JOB VOC.	-0.0119	0.2987	-0.1805	-0.1672	-0.1717	-0.2820	-0.2713	-0.0571	-0.1240	-0.0971	-0.0752	0.0715

	GRADE 2	RACE	PLANS	PURE VOC	OCC-SPEC	GEN OCC	S.A.I.V.	SALARIES	VALUES	JOB VOC.
READING	0.0526	0.0516	-0.2750	0.0264	-0.0543	-0.0120	-0.0077	-0.3284	-0.0070	-0.0119
GUIDANCE	0.1617	-0.2238	-0.1607	0.3407	0.2351	0.2717	0.1512	0.0307	0.1729	0.2987
FILMTAPE	-0.1276	0.1386	-0.0422	-0.0904	-0.2485	-0.0372	-0.1270	-0.1790	-0.1626	-0.1805
COMPUTER	0.0249	-0.1293	-0.0601	-0.1041	-0.1032	-0.0662	-0.1858	-0.1650	-0.1553	-0.1672
MICROFI.	0.0439	-0.1394	-0.0594	-0.0687	-0.1215	-0.1679	-0.1918	-0.1982	-0.0684	-0.1717
SORTCRDS	-0.0218	-0.0478	-0.1143	-0.1370	-0.3259	-0.1563	-0.1855	-0.2112	-0.2555	-0.2820
WORK EXP	0.0941	0.1251	0.1951	-0.1709	-0.1111	-0.1732	-0.2018	-0.0047	-0.0624	-0.2713
CAREER D	0.0810	0.1613	-0.0112	-0.2288	-0.1705	-0.0486	-0.0108	-0.0468	-0.0018	-0.0571
PLANT T.	0.0517	-0.1094	0.0233	-0.2162	-0.1509	-0.1655	-0.1990	-0.1607	-0.1527	-0.1240
PLAN CRS	-0.0311	0.1324	-0.0578	-0.1637	0.1070	-0.0708	-0.0487	-0.1503	0.0744	-0.0971
SEX	-0.1230	0.1378	-0.0062	-0.1157	-0.2080	-0.0958	0.0671	-0.1005	0.0924	-0.0752
GRADE 1	-0.4126	-0.2936	0.0674	0.0862	-0.0445	0.0564	0.1549	-0.2069	-0.0431	0.0715
GRADE 2	1.0000	0.1386	0.1739	-0.0867	-0.1213	-0.0394	-0.1848	0.0955	0.1211	-0.0610
RACE	0.1386	1.0000	0.2345	-0.6340	-0.3444	-0.4929	-0.3600	-0.2082	0.0170	-0.5514
PLANS	0.1738	0.2345	1.0000	-0.2587	-0.2828	-0.3594	-0.1017	-0.2333	-0.0537	-0.1951
PURE VOC	-0.0867	-0.6340	-0.2587	1.0000	0.5095	0.7098	0.4574	0.3442	0.1505	0.7811
OCC-SPEC	-0.1213	-0.3444	-0.2828	0.5095	1.0000	0.5076	0.2627	0.3571	0.1819	0.5711
GEN OCC	-0.0394	-0.4929	-0.3594	0.7098	0.5076	1.0000	0.4954	0.4454	0.1900	0.7247
S.A.I.V.	-0.1848	-0.3600	-0.1017	0.4574	0.2627	0.4954	1.0000	0.2066	0.2580	0.4814
SALARIES	0.0955	-0.2082	-0.2333	0.3442	0.3571	0.4454	0.2066	1.0000	0.1159	0.3769
VALUES	0.1211	0.0170	-0.0537	0.1505	0.1819	0.1900	0.2580	0.1159	1.0000	0.1604
JOB VOC.	-0.0610	-0.5514	-0.1951	0.7811	0.5711	0.7247	0.4814	0.3769	0.1604	1.0000

Table 33

Correlation Matrix for the Pov/Materials School,
Independent and Dependent Variables

CORRELATION MATRIX POV/MATERIALS

	READING	GUIDANCE	FILMTAPE	COMPUTER	MICROFI.	SORTCRDS	WORK EXP	CAREER D	PLANT T.	PLAN CRS	SEX	GRADE 1
READING	1.0000	0.3532	0.2147	0.0638	0.1765	0.1440	0.1785	0.1313	0.0783	0.1209	0.2109	0.0749
GUIDANCE	0.3532	1.0000	0.1000	0.0993	0.2001	0.1275	0.0761	0.1937	0.2307	0.0417	0.1850	0.1277
FILMTAPE	0.2147	0.1000	1.0000	0.2515	0.3721	0.0505	0.2193	0.0436	0.2291	0.1915	0.0520	-0.0395
COMPUTER	0.0638	0.0993	0.2515	1.0000	-0.0737	0.0196	-0.1351	-0.1362	-0.0748	-0.0652	0.1188	-0.1050
MICROFI.	0.1765	0.2001	0.3721	-0.0737	1.0000	0.1255	0.2722	0.0681	0.2732	0.2508	0.0847	-0.0564
SORTCRDS	0.1440	0.1275	0.0505	0.0196	0.1255	1.0000	0.3221	0.0131	0.1020	0.3133	0.0555	0.0032
WORK EXP	0.1785	0.0761	0.2193	-0.1351	0.2722	0.3221	1.0000	0.2933	0.1131	0.5346	-0.0284	0.0502
CAREER D	0.1313	0.1937	0.0436	-0.1362	0.0681	0.0131	0.2933	1.0000	0.3157	0.2391	0.0222	-0.1323
PLANT T.	0.0783	0.2307	0.2291	-0.0748	0.2732	0.1020	0.1131	0.3157	1.0000	0.3083	0.1343	-0.1112
PLAN CRS	0.1209	0.0417	0.1915	-0.0652	0.2508	0.3133	0.5346	0.2391	0.3083	1.0000	0.1129	0.1069
SEX	0.2109	0.1850	0.0520	0.1188	0.0847	0.0555	-0.0284	0.0222	0.1343	0.1129	1.0000	0.2262
GRADE 1	0.0749	0.1277	-0.0395	-0.1050	-0.0564	0.0032	0.0502	-0.1323	-0.1112	0.1069	0.2262	1.0000
GRADE 2	0.0278	0.1817	-0.0569	-0.1710	0.1274	0.0032	0.2785	0.3105	0.3337	0.1940	-0.1955	-0.5714
RACE	0.0160	-0.0219	-0.0448	-0.0111	-0.1437	0.1476	0.0114	-0.0726	0.0064	-0.0037	0.0915	0.0329
PLANS	0.2358	-0.1526	0.1537	-0.1480	0.0469	0.2934	0.3667	-0.0398	-0.0801	0.3804	-0.0398	0.0329
PURE VOC	-0.1573	0.1279	-0.1412	-0.0254	-0.0143	-0.1181	-0.1796	0.1057	-0.0362	-0.2478	-0.2304	-0.2123
OCC-SPEC	0.1501	0.2716	-0.0667	0.0224	0.0626	0.0882	0.0616	0.1460	0.0180	-0.0368	-0.0473	-0.0917
GEN OCC	0.0287	0.0662	-0.1221	-0.0518	0.0304	-0.1593	-0.1072	0.0382	0.0013	-0.2016	-0.1583	-0.1000
S.A.I.V.	0.0741	0.1816	-0.0195	0.1086	-0.0162	-0.0048	-0.1690	-0.0628	-0.0658	-0.1460	0.0063	0.0520
SALARIES	0.2219	0.0649	0.0041	-0.1043	-0.0362	0.0598	-0.0513	-0.0863	-0.1605	-0.1187	-0.1038	-0.0154
VALUES	0.0042	0.0290	0.0429	0.0610	0.0262	-0.1309	-0.1468	0.0798	0.0545	-0.2115	0.0349	-0.1881
JOB VOC.	0.0205	0.1048	-0.1901	-0.0626	0.0335	-0.0673	-0.0291	0.2254	0.0951	0.0129	-0.0059	-0.0993

	GRADE 2	RACE	PLANS	PURE VOC	OCC-SPEC	GEN OCC	S.A.I.V.	SALARIES	VALUES	JOB VOC.
READING	0.0278	0.0160	0.2358	-0.1573	0.1501	0.0287	0.0741	0.2219	0.0042	0.0205
GUIDANCE	0.1817	-0.0219	-0.1526	0.1279	0.2716	0.0662	0.1816	0.0649	0.0290	0.1048
FILMTAPE	-0.0569	-0.0448	0.1537	-0.1412	-0.0667	-0.1221	-0.0195	0.0041	0.0429	-0.1901
COMPUTER	-0.1710	-0.0111	-0.1480	-0.0254	0.0224	-0.0518	0.1086	-0.1043	0.0610	-0.0626
MICROFI.	0.1274	-0.1437	0.0469	-0.0143	0.0626	0.0304	-0.0162	-0.0362	0.0262	0.0335
SORTCRDS	0.0032	0.1476	0.2934	-0.1181	0.0882	-0.1593	-0.0048	0.0598	-0.1309	-0.0673
WORK EXP	0.2785	0.0114	0.3667	-0.1796	0.0616	-0.1072	-0.1690	-0.0513	-0.1468	-0.0291
CAREER D	0.3105	-0.0726	-0.0398	0.1057	0.1460	0.0382	-0.0628	-0.0863	0.0798	0.2254
PLANT T.	0.3337	0.0064	-0.0801	-0.0362	0.0180	0.0013	-0.0658	-0.1605	0.0545	0.0951
PLAN CRS	0.1940	-0.0037	0.3804	-0.2478	-0.0368	-0.2016	-0.1460	-0.1187	-0.2115	0.0129
SEX	-0.1955	0.0915	-0.0398	-0.2304	-0.0473	-0.1583	0.0063	-0.1038	0.0349	-0.0059
GRADE 1	-0.5714	0.0329	0.0329	-0.2123	-0.0917	-0.1000	0.0520	-0.0154	-0.1881	-0.0993
GRADE 2	1.0000	-0.1029	-0.0123	0.2356	0.1546	0.1866	-0.0481	-0.0636	0.1302	0.2535
RACE	-0.1029	1.0000	0.0138	-0.2256	0.0128	-0.0896	-0.0326	-0.1534	-0.1420	-0.1792
PLANS	-0.0123	0.0138	1.0000	-0.2919	-0.1708	-0.1663	-0.0326	-0.0533	-0.1696	-0.2489
PURE VOC	0.2356	-0.2256	-0.2919	1.0000	0.2508	0.4193	0.2655	0.1295	0.1453	0.5427
OCC-SPEC	0.1546	0.0128	-0.1708	0.2508	1.0000	0.3866	0.1034	0.0849	0.2265	0.3443
GEN OCC	0.1866	-0.0896	-0.1663	0.4193	0.3866	1.0000	0.2289	0.1638	0.1758	0.5666
S.A.I.V.	-0.0481	-0.0326	-0.0326	0.2655	0.1034	0.2289	1.0000	0.3767	0.1175	0.3351
SALARIES	-0.0636	-0.1534	-0.0533	0.1295	0.0849	0.1638	0.3767	1.0000	0.0461	0.1648
VALUES	0.1302	-0.1420	-0.1696	0.1453	0.2265	0.1758	0.1175	0.0461	1.0000	0.1994
JOB VOC.	0.2535	-0.1792	-0.2489	0.5427	0.3443	0.5666	0.3351	0.1648	0.1994	1.0000

Table 34

Correlation Matrix for the Pov/Publications School,
Independent and Dependent Variables

CORRELATION MATRIX POV/PUBLICATIONS

	READING	GUIDANCE	FILMTAPE	COMPUTER	MICROFI.	SORTCRDS	WORK EXP	CAREER D	PLANT T.	PLAN CRS	SEX	GRADE 1
READING	1.0000	0.1568	0.3154	0.0973	0.1479	0.0116	0.1251	-0.0611	0.1975	0.2603	-0.1760	-0.0275
GUIDANCE	0.1568	1.0000	0.3876	0.1112	0.3051	0.0918	0.1748	-0.0059	0.2935	0.3421	-0.1932	-0.0580
FILMTAPE	0.3154	0.3876	1.0000	0.4039	0.3864	0.1968	0.1313	0.1196	0.3479	0.3680	-0.3441	0.0462
COMPUTER	0.0973	0.1112	0.4039	1.0000	0.3471	0.1445	-0.0037	0.0597	0.1733	0.0162	-0.1122	0.0244
MICROFI.	0.1479	0.3051	0.3864	0.3471	1.0000	0.2892	0.0557	0.1152	0.2388	0.1218	-0.1698	-0.0303
SORTCRDS	0.0116	0.0918	0.1968	0.1445	0.2892	1.0000	0.0404	0.1756	0.1732	-0.0841	-0.0569	0.0796
WORK EXP	0.1251	0.1748	0.1313	-0.0037	0.0557	0.0404	1.0000	0.2623	0.2082	0.2570	0.1532	0.1121
CAREER D	-0.0611	-0.0059	0.1196	0.0597	0.1152	0.1756	0.2623	1.0000	0.3935	0.0299	0.0290	0.1004
PLANT T.	0.1975	0.2935	0.3479	0.1733	0.2388	0.1732	0.2082	0.3935	1.0000	0.2250	-0.0272	-0.0389
PLAN CRS	0.2603	0.3421	0.3680	0.0162	0.1218	-0.0841	0.2570	0.0299	0.2250	1.0000	-0.0238	0.0729
SEX	-0.1760	-0.1932	-0.3441	-0.1122	-0.1698	-0.0569	0.1532	0.0290	-0.0272	-0.0238	1.0000	-0.0366
GRADE 1	-0.0275	-0.0580	0.0462	0.0244	-0.0303	0.0796	0.1121	0.1004	-0.0389	0.0729	-0.0366	1.0000
GRADE 2	0.0155	0.1868	0.0496	0.0477	0.2445	-0.1449	0.2101	0.1035	0.2786	0.1519	-0.0039	-0.3803
RACE	0.1257	0.0598	0.0590	0.1502	-0.0875	0.1961	0.0071	-0.0565	0.0782	0.1402	-0.0290	-0.0978
PLANS	0.1281	0.1254	0.3602	0.2299	0.1170	-0.0620	0.2657	0.0493	0.1519	0.3317	0.0120	0.1560
PURE VOC	-0.0654	0.0640	-0.2293	-0.1237	0.0432	-0.1761	-0.1052	-0.0865	-0.0974	-0.0954	0.0844	-0.1802
OCC-SPEC	0.0051	-0.0394	-0.1458	-0.0025	0.0739	0.0012	0.1244	0.1986	0.0996	-0.0699	0.1278	0.0359
GEN OCC	-0.1783	0.0523	-0.2365	-0.1237	-0.0755	-0.1416	-0.0693	0.0247	-0.0934	-0.0816	0.0029	-0.0741
S.A.I.V.	-0.0754	-0.0583	-0.0968	-0.1677	-0.1952	-0.2618	-0.1341	0.0377	-0.0115	-0.0658	0.1211	-0.0650
SALARIES	-0.0945	0.0350	-0.1483	-0.1740	-0.0532	-0.2301	0.0253	-0.0266	-0.0101	-0.0445	0.1169	-0.0594
VALUES	0.0740	-0.0393	-0.0084	-0.0877	-0.0449	-0.1019	0.0587	-0.0073	0.1021	0.1228	0.1123	-0.2107
JOB VOC.	-0.0871	0.0390	-0.2202	-0.1825	-0.0176	-0.1129	-0.0282	0.0595	-0.0461	-0.1771	0.1010	-0.0759

	GRADE 2	RACE	PLANS	PURE VOC	OCC-SPEC	GEN OCC	S.A.I.V.	SALARIES	VALUES	JOB VOC.
READING	0.0155	0.1257	0.1281	-0.0654	0.0051	-0.1783	-0.0754	-0.0945	0.0740	-0.0871
GUIDANCE	0.1868	0.0598	0.1254	0.0640	-0.0394	0.0523	-0.0583	0.0350	-0.0393	0.0390
FILMTAPE	0.0496	0.0590	0.3602	-0.2293	-0.1458	-0.2365	-0.0968	-0.1483	-0.0084	-0.2202
COMPUTER	0.0477	0.1502	0.2299	-0.1237	-0.0025	-0.1237	-0.1677	-0.1740	-0.0877	-0.1825
MICROFI.	0.2445	-0.0875	0.1170	0.0432	0.0739	-0.0755	-0.1952	-0.0532	-0.0449	-0.0176
SORTCRDS	-0.1449	0.1961	-0.0620	-0.1761	0.0012	-0.1416	-0.2618	-0.2301	-0.1019	-0.1129
WORK EXP	0.2101	0.0071	0.2657	-0.1052	0.1244	-0.0693	-0.1341	0.0253	0.0587	-0.0282
CAREER D	0.1035	-0.0565	0.0493	-0.0865	0.1986	0.0247	0.0377	-0.0266	-0.0073	0.0595
PLANT T.	0.2786	0.0782	0.1519	-0.0974	0.0996	-0.0934	-0.0115	-0.0101	0.1021	-0.0461
PLAN CRS	0.1519	0.1402	0.3317	-0.0954	-0.0699	-0.0816	-0.0658	-0.0445	0.1228	-0.1771
SEX	-0.0039	-0.0290	0.0120	0.0844	0.1278	0.0029	0.1211	0.1169	0.1123	0.1010
GRADE 1	-0.3803	-0.0978	0.1560	-0.1802	0.0359	-0.0741	-0.0650	-0.0594	-0.2107	-0.0759
GRADE 2	1.0000	-0.1336	0.0916	0.1641	0.2695	0.0727	0.1016	0.0966	0.1745	0.1789
RACE	-0.1336	1.0000	0.1643	-0.3222	-0.1604	-0.3233	-0.2199	-0.3451	-0.1139	-0.4344
PLANS	0.0916	0.1643	1.0000	-0.3294	-0.2085	-0.3312	-0.1998	-0.1635	-0.0065	-0.2930
PURE VOC	0.1641	-0.3222	-0.3294	1.0000	0.4164	0.6228	0.4388	0.5075	0.2047	0.7260
OCC-SPEC	0.2695	-0.1604	-0.2085	0.4164	1.0000	0.3474	0.1480	0.3602	0.2514	0.4135
GEN OCC	0.0727	-0.3233	-0.3312	0.6228	0.3474	1.0000	0.3864	0.4535	0.1917	0.6329
S.A.I.V.	0.1016	-0.2199	-0.1998	0.4388	0.1480	0.3864	1.0000	0.4259	0.2829	0.4796
SALARIES	0.0966	-0.3451	-0.1635	0.5075	0.3602	0.4535	0.4259	1.0000	0.2119	0.4523
VALUES	0.1745	-0.1139	-0.0065	0.2047	0.2514	0.1917	0.2829	0.2119	1.0000	0.2349
JOB VOC.	0.1789	-0.4344	-0.2930	0.7260	0.4135	0.6329	0.4796	0.4523	0.2349	1.0000

Table 35

Correlation Matrix for the Pov/Instruction School,
Independent and Dependent Variables

CORRELATION MATRIX POV/INSTRUCTION

	READING	GUIDANCE	FILMTAPE	COMPUTER	MICROFI.	SORTCRDS	WORK EXP	CAREER D	PLANT T.	PLAN CRS	SEX	GRADE 1
READING	1.0000	0.2051	0.1856	0.0167	0.1576	0.1590	0.1316	-0.0904	-0.2321	0.1195	0.0853	-0.0290
GUIDANCE	0.2051	1.0000	0.2121	0.1901	0.0877	0.1597	0.0643	0.0805	0.1910	0.0851	-0.0759	-0.1034
FILMTAPE	0.1856	0.2121	1.0000	0.1806	0.3969	0.1884	0.2269	-0.0276	0.1585	0.1645	0.0862	0.2276
COMPUTER	0.0167	0.1901	0.1806	1.0000	0.1629	0.2426	0.0951	0.1461	0.1637	0.3381	0.1072	0.0958
MICROFI.	0.1576	0.0877	0.3969	0.1629	1.0000	0.2137	0.0398	-0.1187	0.0693	0.0325	-0.0189	0.2098
SORTCRDS	0.1590	0.1597	0.1884	0.2426	0.2137	1.0000	0.3052	0.2130	-0.0858	0.3176	0.0378	0.2907
WORK EXP	0.1316	0.0643	0.2269	0.0951	0.0398	0.3052	1.0000	-0.0382	-0.1403	0.1448	-0.0643	0.0176
CAREER D	-0.0904	0.0805	-0.0276	0.1461	-0.1187	0.2130	-0.0382	1.0000	0.0341	0.3056	0.0011	-0.0812
PLANT T.	-0.2321	0.1910	0.1585	0.1637	0.0693	-0.0858	-0.1403	0.0341	1.0000	0.0221	-0.1682	0.0188
PLAN CRS	0.1195	0.0851	0.1645	0.3381	0.0325	0.3176	0.1448	0.3056	0.0221	1.0000	0.1132	0.0981
SEX	0.0853	-0.0759	0.0862	0.1072	-0.0189	0.0378	-0.0643	0.0011	-0.1682	0.1132	1.0000	0.0175
GRADE 1	-0.0290	-0.1034	0.2276	0.0958	0.2098	0.2907	0.0176	-0.0812	0.0188	0.0981	0.0175	1.0000
GRADE 2	0.0472	0.2556	-0.2884	-0.0208	-0.0240	-0.1441	-0.1554	0.1760	0.1059	-0.0638	-0.1063	-0.5423
RACE	0.0843	-0.1129	-0.0866	-0.1706	-0.0428	-0.0547	-0.0844	-0.0421	-0.1251	-0.1139	0.0664	-0.0387
PLANS	0.1186	0.0065	0.2317	0.1255	0.1551	0.2046	0.1779	-0.0374	0.0689	0.1234	0.0147	0.1048
PURE VOC	-0.0991	0.0343	-0.0105	0.1615	-0.1075	-0.1440	-0.1114	0.1446	-0.0628	-0.1628	0.0402	-0.0366
OCC-SPEC	0.0512	-0.0104	-0.0466	-0.0352	-0.0072	-0.1108	-0.1466	0.0989	-0.1258	0.0803	0.0514	-0.0840
GEN OCC	-0.0508	0.0739	-0.2446	0.0287	-0.2183	-0.0679	-0.2640	0.2222	-0.1158	-0.0532	0.1055	-0.1314
S.A.I.V.	-0.0074	0.0895	-0.0517	-0.0720	-0.2108	-0.1461	-0.1837	0.0026	0.1376	0.0678	0.1224	-0.0243
SALARIES	-0.1172	0.1375	-0.0597	0.0550	-0.2239	0.0929	-0.1189	0.2137	-0.0561	0.0116	0.0132	-0.0792
VALUES	-0.0356	-0.1215	0.0024	-0.0474	-0.0761	0.0572	-0.0797	-0.0919	0.0198	-0.0697	0.0388	-0.0753
JOB VOC.	-0.0302	0.0358	-0.1006	0.0387	-0.0969	-0.0192	-0.1756	0.1387	0.0108	0.0340	0.1010	-0.2502

	GRADE 2	RACE	PLANS	PURE VOC	OCC-SPEC	GEN OCC	S.A.I.V.	SALARIES	VALUES	JOB VOC.
READING	0.0472	0.0843	0.1186	-0.0991	0.0512	-0.0508	-0.0074	-0.1172	-0.0356	-0.0302
GUIDANCE	0.2556	-0.1129	0.0065	0.0343	-0.0104	0.0739	0.0895	0.1375	-0.1215	0.0358
FILMTAPE	-0.2884	-0.0866	0.2317	-0.0105	-0.0466	-0.2446	-0.0517	-0.0597	0.0024	-0.1006
COMPUTER	-0.0208	-0.1706	0.1255	0.1615	-0.0352	0.0287	-0.0720	0.0550	-0.0474	0.0387
MICROFI.	-0.0240	-0.0428	0.1551	-0.1075	-0.0072	-0.2183	-0.2108	-0.2239	-0.0761	-0.0969
SORTCRDS	-0.1441	-0.0547	0.2046	-0.1440	-0.1108	-0.0679	-0.1461	0.0929	0.0572	-0.0192
WORK EXP	-0.1554	-0.0844	0.1779	-0.1114	-0.1466	-0.2640	-0.1837	-0.1189	-0.0797	-0.1756
CAREER D	0.1760	-0.0421	-0.0374	0.1446	0.0989	0.2222	0.0026	0.2137	-0.0919	0.1387
PLANT T.	0.1059	-0.1251	0.0689	-0.0628	-0.1258	-0.1158	0.1376	-0.0561	0.0198	0.0108
PLAN CRS	-0.0638	-0.1139	0.1234	-0.1628	0.0803	-0.0532	0.0678	0.0116	-0.0697	0.0340
SEX	-0.1063	0.0664	0.0147	0.0402	0.0514	0.1055	0.1224	0.0132	0.0388	0.1010
GRADE 1	-0.5423	-0.0387	0.1048	-0.0366	-0.0840	-0.1314	-0.0243	-0.0792	-0.0753	-0.2502
GRADE 2	1.0000	-0.0861	-0.0284	0.1439	0.1003	0.1835	-0.0086	0.0397	-0.0082	0.2693
RACE	-0.0861	1.0000	0.0589	-0.2618	0.1460	-0.0331	-0.0026	-0.0843	0.0304	-0.2236
PLANS	-0.0284	0.0589	1.0000	-0.3197	-0.1101	-0.4654	-0.1386	-0.3256	-0.0598	-0.2602
PURE VOC	0.1439	-0.2618	-0.3197	1.0000	0.1969	0.4059	0.2137	0.0091	0.0350	0.6048
OCC-SPEC	0.1003	0.1460	-0.1101	0.1969	1.0000	0.3211	0.2845	0.2082	0.0620	0.2353
GEN OCC	0.1835	-0.0331	-0.4654	0.4059	0.3211	1.0000	0.1893	0.3031	0.0600	0.4761
S.A.I.V.	-0.0086	-0.0026	-0.1386	0.2137	0.2845	0.1893	1.0000	0.2047	0.0927	0.4104
SALARIES	0.0397	-0.0843	-0.1256	0.0091	0.2082	0.3031	0.2047	1.0000	0.0226	0.2080
VALUES	-0.0082	0.0304	-0.0598	0.0350	0.0620	0.0600	0.0927	0.0226	1.0000	0.1728
JOB VOC.	0.2693	-0.2236	-0.2602	0.6048	0.2353	0.4761	0.4104	0.2080	0.1728	1.0000

Table 36

Correlation Matrix for the Pov/Minimum School,
Independent and Dependent Variables

CORRELATION MATRIX

	READING	POV/MINIMUM GUIDANCE	FILMTAPE	COMPUTER	MICROFI.	SORTCRDS	WORK EXP	CAREER D	PLANT T.	PLAN CRS	SEX	GRADE 1
READING	1.0000	0.1925	0.0996	0.0781	-0.0235	0.1247	0.1010	-0.0740	-0.0536	0.0789	0.2113	0.0718
GUIDANCE	0.1925	1.0000	0.0310	-0.0039	-0.0423	-0.1711	0.0430	0.0275	-0.0622	0.0950	-0.0045	-0.0142
FILMTAPE	0.0996	0.0310	1.0000	0.0249	0.2294	0.1118	0.0789	-0.0214	0.1170	-0.0412	-0.0057	0.2162
COMPUTER	0.0781	-0.0039	0.0249	1.0000	0.0242	0.0222	-0.0297	0.0119	-0.0354	-0.0508	-0.1244	0.0503
MICROFI.	-0.0235	-0.0423	0.2294	0.0242	1.0000	0.1061	0.1847	-0.0990	0.0429	-0.0271	-0.1446	0.0386
SORTCRDS	0.1247	-0.1711	0.1118	0.0222	0.1061	1.0000	0.1210	-0.0276	-0.0665	-0.0062	0.0343	-0.0353
WORK EXP	0.1010	0.0430	0.0789	-0.0297	0.1847	0.1210	1.0000	0.1689	0.0793	0.3051	-0.0444	-0.0343
CAREER D	-0.0740	0.0275	-0.0214	0.0119	-0.0990	-0.0276	0.1689	1.0000	0.1811	0.2803	-0.0352	-0.0270
PLANT T.	-0.0536	-0.0622	0.1170	-0.0354	0.0429	-0.0665	0.0793	0.1811	1.0000	0.1936	0.0211	-0.0227
PLAN CRS	0.0789	0.0950	-0.0412	-0.0508	-0.0271	-0.0062	0.3051	0.2803	0.1936	1.0000	0.0327	-0.1119
SEX	0.2113	-0.0045	-0.0057	-0.1244	-0.1446	0.0343	-0.0444	-0.0352	0.0211	0.0327	1.0000	0.1859
GRADE 1	0.0718	-0.0142	0.2162	0.0503	0.0386	-0.0353	-0.0343	-0.0270	-0.0227	-0.1119	0.1859	1.0000
GRADE 2	-0.0344	0.0172	-0.1369	-0.1117	0.0339	-0.0055	0.2789	0.2630	0.1194	0.1848	-0.1230	-0.4551
RACE	0.0651	-0.0795	-0.1438	0.0073	-0.0938	0.0409	-0.0012	-0.1172	-0.0811	0.0638	-0.0524	-0.0725
PLANS	-0.1173	-0.2196	-0.0522	-0.1863	0.0101	0.1454	0.1745	-0.1150	0.2052	0.0077	0.0627	-0.2193
PURE VOC	-0.0960	0.1252	0.0056	-0.0042	-0.0260	-0.1980	-0.0930	0.0649	-0.0134	-0.1184	-0.0060	0.0281
OCC-SPEC	-0.0261	0.1854	-0.1793	-0.0394	-0.1639	-0.1440	0.0809	0.0302	0.0349	0.0098	0.0056	-0.1500
GEN OCC	0.0779	0.0436	-0.0386	-0.2056	-0.0306	-0.0592	-0.0895	0.0401	-0.0187	-0.1989	-0.0766	-0.0638
S.A.I.V.	-0.0590	0.0679	0.0019	-0.0507	-0.0953	-0.0213	0.1287	0.0231	-0.0214	0.0489	0.0005	-0.1178
SALARIES	-0.0872	-0.0657	-0.0536	0.0143	-0.2019	-0.0025	-0.0411	0.0557	-0.1751	-0.0888	-0.1229	-0.0569
VALUES	-0.1179	-0.0537	0.0442	-0.0618	0.0787	-0.1874	0.0040	0.2205	0.0796	0.1070	-0.0306	-0.0857
JOB VOC.	0.0041	0.2165	-0.0113	-0.0251	-0.0330	-0.1187	-0.1111	0.1788	0.0453	-0.0200	-0.0604	-0.0570

	GRADE 2	RACE	PLANS	PURE VOC	OCC-SPEC	GEN OCC	S.A.I.V.	SALARIES	VALUES	JOB VOC.
READING	-0.0344	0.0651	-0.1173	-0.0960	-0.0261	0.0779	-0.0590	-0.0872	-0.1179	0.0041
GUIDANCE	0.0172	-0.0795	-0.2196	0.1252	0.1854	0.0436	0.0679	-0.0657	-0.0537	0.2165
FILMTAPE	-0.1369	-0.1438	-0.0522	0.0056	-0.1793	-0.0386	0.0019	-0.0536	0.0442	-0.0113
COMPUTER	-0.1117	0.0073	-0.1863	-0.0042	-0.0394	-0.2056	-0.0507	0.0143	-0.0618	-0.0251
MICROFI.	0.0339	-0.0938	0.0101	-0.0260	-0.1639	-0.0306	-0.0953	-0.2019	0.0787	-0.0330
SORTCRDS	-0.0055	0.0409	0.1454	-0.1980	-0.1440	-0.0592	-0.0213	-0.0025	-0.1874	-0.1187
WORK EXP	0.2789	-0.0012	0.1745	-0.0930	0.0809	-0.0895	0.1287	-0.0411	0.0040	-0.1111
CAREER D	0.2630	-0.1172	-0.1150	0.0649	0.0302	0.0401	0.0231	0.0557	0.2205	0.1788
PLANT T.	0.1194	-0.0811	0.2052	-0.0134	0.0349	-0.0187	-0.0214	-0.1751	0.0796	0.0453
PLAN CRS	0.1848	0.0638	0.0077	-0.1184	0.0098	-0.1989	0.0489	-0.0888	0.1070	-0.0200
SEX	-0.1230	-0.0524	0.0627	-0.0060	0.0056	-0.0766	0.0005	-0.1229	-0.0306	-0.0604
GRADE 1	-0.4551	-0.0725	-0.2193	0.0281	-0.1500	-0.0638	-0.1178	-0.0569	-0.0857	-0.0570
GRADE 2	1.0000	0.0808	0.1555	0.0476	0.1246	0.1209	0.1191	0.0701	-0.0094	0.1096
RACE	0.0808	1.0000	0.0779	-0.2780	-0.1562	-0.1039	-0.0966	0.0196	-0.0432	-0.0600
PLANS	0.1555	0.0779	1.0000	-0.1773	-0.1594	-0.2117	-0.1905	-0.0530	-0.0173	-0.1425
PURE VOC	0.0476	-0.2780	-0.1773	1.0000	0.3061	0.4312	0.3365	0.3642	0.1978	0.5235
OCC-SPEC	0.1246	-0.1562	-0.1594	0.3061	1.0000	0.2403	0.3088	0.0410	0.0757	0.2136
GEN OCC	0.1209	-0.1039	-0.2117	0.4312	0.2403	1.0000	0.3297	0.2077	0.0797	0.4462
S.A.I.V.	0.1191	-0.0966	-0.1905	0.3365	0.3088	0.3297	1.0000	0.1557	0.0864	0.2307
SALARIES	0.0701	0.0196	-0.0530	0.3642	0.0410	0.2077	0.1557	1.0000	-0.0365	0.2036
VALUES	-0.0094	-0.0432	-0.0173	0.1978	0.0757	0.0797	0.0864	-0.0365	1.0000	0.3331
JOB VOC.	0.1096	-0.0600	-0.1425	0.5235	0.2136	0.4462	0.2307	0.2036	0.3331	1.0000

Table 37

Numbers of Students in Eight Questionnaire Categories with Unusable Data and Number of Records Dropped from the Sample Because of Unusable Data in Any Category

Category or questionnaire item	Nature of defect in data	Total no. in category with unusable data	No. in category dropped from the regression analyses
Q 7A-K-Course information resources	Out of range responses	18	18
Same	No response to any item	13	13
Q 1-Sex	No response	5	5
Q 2-Grade	Not in 10th, 11th, or 12th grade	14	8
Q 4-Race	No response or conflicting responses	21	16
Q 6-Plans	No response to any item	8	3
Q 38-51 Vocabulary	No response to any item	42	33
Q 10-22	No response to any item	57	49
Number dropped from regression analysis			145
Number retained in regression analysis			1381
Total sample			1526

Table 38

Regression of the Occupation Specified Scale on Selected Explanatory Variables

Multiple correlation= 0.37

Explanatory variables	Standard reg. weight	t statistics with 1373 D.F.
Sex	0.02	0.98
Grade 1	-0.05	-1.66
Grade 2	0.04	1.47
Race	-0.02	-0.66
Plans	-0.15	-5.69**
Pure vocabulary	0.29	10.49**
Courses	0.10	3.82**

Note: See Table 43 for an explanation of how the variables were coded.

* $p \leq .05$, two-tailed test

** $p \leq .01$, two-tailed test

Table 39

Regression of the General Occupational Information Scale on Selected Explanatory Variables

Multiple correlation= 0.54

Explanatory variables	Standard reg. weight	t statistics with 1370 D.F.
Sex	0.04	1.53
Grade 1	0.05	1.83
Grade 2	0.06	2.19*
Race	-0.08	-3.48**
Plans	-0.17	-7.21**
Pure vocabulary	0.38	15.19**
Work experience	-0.06	-2.55*
Sorting cards	-0.06	-2.38*
Guidance counselors	0.06	2.42*
Film/tape	-0.05	-1.9?*

Note: See Table 43 for an explanation of how the variables were coded.

*$P \leq .05$, two-tailed test

**$P \leq .01$, two-tailed test

Table 40

Regression of the Skills, Aptitudes, Interests, and Values Scale on Selected Explanatory Variables

Multiple correlation= 0.42

Explanatory variables	Standard reg. weight	t statistics with 1371 D.F.
Sex	0.09	3.50**
Grade 1	0.05	1.62
Grade 2	0.03	0.98
Race	-0.03	-1.23
Plans	-0.06	-2.38*
Pure vocabulary	0.37	13.50**
Sorting cards	-0.07	-2.79**
Courses	0.08	2.96**
Work experience	-0.06	-2.34*

Note: See Table 43 for an explanation of how the variables were coded.

*$p \leq .05$, two-tailed test

**$p \leq .01$, two-tailed test

Table 41

Regression of the Salaries Scale on
Selected Explanatory Variables

Multiple correlation= 0.31

Explanatory variables	Standard reg. weight	t statistics with 1372 D.F.
Sex	-0.01	-0.44
Grade 1	-0.01	-0.38
Grade 2	-0.04	-1.22
Race	-0.05	-1.97*
Plans	-0.09	-3.39**
Pure vocabulary	0.23	8.27**
Computer	-0.06	-2.34*
Sorting cards	-0.05	-2.07*

Note: See Table 43 for an explanation of how the variables were coded.

*$p \leq .05$, two-tailed test

**$p \leq .01$, two-tailed test

Table 42

Regression of the Job Vocabulary Scale
on Selected Explanatory Variables

Multiple correlation= 0.66

Explanatory variables	Standard reg. weight	t statistics with 1371 D.F.
Sex	0.02	0.87
Grade 1	0.03	1.32
Grade 2	0.05	2.15*
Race	-0.08	-3.69**
Plans	-0.10	-4.58**
Pure vocabulary	0.57	25.21**
Film/tape	-0.07	-3.11**
Guidance counselors	0.06	2.92**
Sorting cards	-0.05	-2.28*

Note: See Table 43 for an explanation of how the variables were coded.

*$p \leq .05$, two-tailed test

**$p \leq .01$, two-tailed test

Table 43

Coding of Control Variables for the Regression Analyses

Variable	Code
Sex	M=0, F=1
Grade 1	10th=0, 11th=1, 12th=0
Grade 2	10th=0, 11th=0, 12th=1
Race	White=0, non-White=1
Plans	4-yr. college=0, other=1

Table 44

Statistically Significant and Highly Significant Contributors to Scores on Five Test Scales: Summary

Explanatory variable	Test Scale Variables				
	Occ. Spec.	Gen. occ.	SAIV	Salaries	Job Vocabulary
Female sex			**		
Grade: 11 vs 10,12					
Grade: 12 vs 10,11		*			*
White race		**		*	**
Plans for 4-yr. college	**	**	*	**	**
Pure vocabulary reading	***	***	***	***	***
Counselors		*			**
Film/tape		Neg.*			Neg.*
Computers				Neg.*	
Microfiche					
Sorting cards		Neg.*	Neg.**	Neg.*	Neg.*
Work experience		Neg.*	Neg.*		
Career days					
Plant tours					
Coursework	**		**		

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 45

Correlation Matrix of All Variables

CORRELATION MATRIX

	READING	GUIDANCE	FILMTAPE	COMPUTER	MICROFI.	SORTCRDS	WORK EXP	CAREER D	PLANT T.	PLAN CRS	SEX	GRADE 1
READING	1.0000	0.2591	0.3324	0.0652	0.1629	0.1188	0.1359	0.1040	0.0864	0.1839	0.0325	-0.0146
GUIDANCE	0.2591	1.0000	0.1728	0.1577	0.1341	0.0675	0.0982	0.1795	0.1325	0.1933	0.0281	-0.0652
FILMTAPE	0.3324	0.1728	1.0000	0.1138	0.3068	0.1467	0.1918	0.0504	0.1370	0.2305	-0.0358	0.0094
COMPUTER	0.0652	0.1577	0.1138	1.0000	0.1999	0.1759	0.0661	0.1414	0.1864	0.1427	-0.0104	-0.0310
MICROFI.	0.1629	0.1341	0.3068	0.1999	1.0000	0.3180	0.1586	0.0706	0.2029	0.1839	-0.0659	-0.0248
SORTCRDS	0.1188	0.0675	0.1467	0.1759	0.3180	1.0000	0.1774	0.1218	0.1358	0.2127	0.0395	-0.0391
WORK EXP	0.1359	0.0982	0.1918	0.0661	0.1586	0.1774	1.0000	0.1396	0.2230	0.3423	0.0396	0.0213
CAREER D	0.1040	0.1795	0.0504	0.1414	0.0706	0.1218	0.1396	1.0000	0.1876	0.1573	0.0558	0.0890
PLANT T.	0.0864	0.1325	0.1370	0.1864	0.2029	0.1358	0.2230	0.1876	1.0000	0.2403	-0.0028	0.0567
PLAN CRS	0.1839	0.1933	0.2305	0.1427	0.1839	0.2127	0.3423	0.1573	0.2403	1.0000	0.0803	-0.0056
SEX	0.0325	0.0281	-0.0358	-0.0104	-0.0659	0.0395	0.0396	0.0558	-0.0028	0.0803	1.0000	-0.0298
GRADE 1	-0.0146	-0.0652	0.0094	-0.0310	-0.0248	-0.0391	0.0213	0.0890	0.0567	-0.0056	-0.0298	1.0000
GRADE 2	0.0590	0.1698	-0.0149	0.0773	0.0871	0.0043	0.1477	0.1028	0.1053	0.0758	-0.0256	-0.4984
RACE	0.1075	0.0310	0.0736	0.0936	0.0187	0.1119	0.1517	0.1243	0.0907	0.1544	0.0626	-0.0014
PLANS	0.0093	-0.1086	0.0778	-0.0668	-0.0082	0.0475	0.1799	-0.0774	0.0525	0.1168	0.0230	-0.0318
PURE VOC	-0.0287	0.0816	-0.1135	0.0005	-0.0333	-0.1224	-0.1570	0.0233	-0.0892	-0.1677	-0.0414	-0.0373
OCC-SPEC	0.0426	0.1095	-0.0437	0.0153	0.0127	-0.0282	-0.0283	0.0116	-0.0367	0.0357	0.0165	-0.0768
GEN OCC	-0.0143	0.0953	-0.1228	-0.0037	-0.0698	-0.1350	-0.1692	0.0137	-0.1018	-0.1039	0.0057	0.0058
S.A.I.V.	-0.0150	0.0430	-0.0930	-0.0274	-0.0646	-0.1147	-0.1136	0.0171	-0.0630	-0.0222	0.0666	0.0188
SALARIES	-0.0555	-0.0091	-0.0897	-0.0723	-0.0747	-0.1045	-0.0954	-0.0332	-0.0816	-0.0842	-0.0268	0.0055
JOB VOC.	-0.0131	0.1093	-0.1406	-0.0247	-0.0671	-0.1359	-0.1566	0.0526	-0.0780	-0.0911	-0.0129	-0.0158
SCH-V 1	-0.0250	-0.1189	-0.0897	-0.0017	-0.0270	0.0609	0.0069	0.3658	0.0026	-0.0145	-0.0164	0.1239
SCH-V 2	-0.0627	0.0139	-0.0352	0.0567	0.0623	0.0336	-0.0350	-0.0843	-0.0416	0.0215	-0.0380	-0.0113
SCH-V 3	0.0036	0.1343	0.0100	0.0053	0.1146	-0.0009	0.0251	0.1411	0.0198	-0.0157	-0.0192	-0.0838
SCH-V 4	-0.0312	-0.0533	0.0120	-0.0972	-0.0445	-0.0290	-0.0595	-0.1164	-0.0314	-0.0318	-0.0064	0.0138
SCH-V 5	0.0251	0.0681	-0.0387	-0.0711	-0.0491	-0.0185	-0.0363	-0.0827	0.0248	-0.0317	-0.0217	0.0048
SCH-V 6	0.0362	0.0040	0.0620	0.1583	0.0222	0.0995	0.0601	-0.1427	0.0105	0.1179	0.0456	-0.1292
SCH-V 7	0.0912	0.0450	0.0916	0.0134	0.0708	0.1107	0.1256	0.1790	0.0978	0.0541	0.0553	0.0402
SCH-V 8	0.0157	0.0499	0.0680	-0.1007	0.0387	-0.0448	0.0221	-0.0995	0.0395	-0.0570	0.0168	0.0376
SCH-V 9	-0.1185	-0.1054	-0.0264	-0.0394	0.0148	-0.0353	-0.0461	-0.1614	-0.0495	-0.0185	0.0476	-0.0529
SCH-V 10	0.0051	-0.0313	-0.0539	-0.0942	-0.0165	-0.0550	-0.0290	-0.1404	-0.0683	-0.0338	-0.0279	0.0126
SCH-V 11	0.0225	-0.0950	0.0325	-0.0699	-0.0719	-0.0358	0.0128	-0.1509	-0.0243	0.0256	-0.0164	0.0148

Table 45 (cont.)

CORRELATION MATRIX

	GRADE 2	RACE	PLANS	PURE VOC	OCC-SPEC	GEN OCC	S.A.I.V.	SALARIES	JOB VOC.	SCH-V 1	SCH-V 2	SCH-V 3
READING	0.0552	0.1375	0.0093	-0.0287	0.0425	-0.0143	-0.0150	-0.0556	-0.0131	-0.0250	-0.0627	0.0036
GUIDANCE	0.1598	0.0810	-0.1086	0.0816	0.1095	0.0953	0.0430	-0.0091	0.1093	-0.1189	0.0139	0.1343
FILMTAPE	-0.0149	0.0736	0.0778	-0.1135	-0.0437	-0.1228	-0.0930	-0.0897	-0.1406	-0.0897	-0.0352	0.0100
COMPUTER	0.0773	0.0938	-0.0668	0.0005	0.0153	-0.0037	-0.0274	-0.0723	-0.0247	-0.0017	0.0567	0.0053
MICROFI.	0.0971	0.0187	-0.0082	-0.0333	0.0127	-0.0698	-0.0646	-0.0747	-0.0671	-0.0270	0.0623	0.1146
SORTCRDS	0.0043	0.1119	0.0475	-0.1224	-0.0282	-0.1350	-0.1147	-0.1045	-0.1359	0.0609	0.0336	-0.0009
WORK EXP	0.1477	0.1517	0.1799	-0.1570	-0.0283	-0.1692	-0.1136	-0.0954	-0.1566	0.0069	-0.0350	0.0251
CAREER O	0.1025	0.1243	-0.0774	0.0233	0.0116	0.0137	0.0171	-0.0332	0.0526	0.3658	-0.0843	0.1411
PLANT T.	0.1053	0.0907	0.0525	-0.0892	-0.0367	-0.1018	-0.0630	-0.0816	-0.0780	0.0026	-0.0416	0.0198
PLAN CRS	0.0758	0.1544	0.1168	-0.1677	0.0357	-0.1039	-0.0222	-0.0842	-0.0911	-0.0145	0.0215	-0.0157
SEX	-0.0255	0.0626	0.0230	-0.0414	0.0165	0.0057	0.0666	-0.0268	-0.0129	-0.0164	-0.0380	-0.0192
GRADE 1	-0.4984	-0.0014	-0.0318	-0.0373	-0.0768	0.0058	0.0188	0.0055	-0.0156	0.1239	-0.0113	-0.0838
GRADE 2	1.0000	-0.0225	0.0749	0.0786	0.0858	0.0547	0.0244	-0.0229	0.0658	-0.0647	0.0093	0.1394
RACE	-0.0225	1.0000	0.0299	-0.3088	-0.0955	-0.2246	-0.1474	-0.1401	-0.2655	0.1733	-0.0350	-0.0555
PLANS	0.0749	0.0299	1.0000	-0.2603	-0.2083	-0.2969	-0.1603	-0.1544	-0.2585	-0.0537	-0.0334	0.0324
PURE VOC	0.0786	-0.3088	-0.2603	1.0000	0.3216	0.4831	0.3934	0.2782	0.6369	-0.0323	-0.0649	0.0124
OCC-SPEC	0.0858	-0.0955	-0.2083	0.3216	1.0000	0.2979	0.2206	0.1802	0.3398	-0.0074	0.0105	0.0039
GEN OCC	0.0547	-0.2246	-0.2969	0.4831	0.2979	1.0000	0.3636	0.2899	0.5407	0.0292	0.0081	-0.1184
S.A.I.V.	0.0244	-0.1474	-0.1603	0.3934	0.2206	0.3636	1.0000	0.2950	0.4298	0.0379	-0.0421	-0.1306
SALARIES	-0.0229	-0.1401	-0.1544	0.2782	0.1802	0.2899	0.2950	1.0000	0.3211	-0.0042	-0.0306	-0.0843
JOB VOC.	0.0958	-0.2655	-0.2585	0.6369	0.3398	0.5407	0.4298	0.3211	1.0000	-0.0000	-0.0305	-0.0680
SCH-V 1	-0.0647	0.1733	-0.0537	-0.0323	-0.0074	0.0292	0.0379	-0.0042	-0.0000	1.0000	-0.0882	-0.0813
SCH-V 2	0.0093	-0.0350	-0.0334	-0.0649	0.0105	0.0081	-0.0421	-0.0306	-0.0305	-0.0882	1.0000	-0.0774
SCH-V 3	0.1394	-0.0555	0.0324	0.0124	0.0039	-0.1184	-0.1306	-0.0843	-0.0680	-0.0813	-0.0774	1.0000
SCH-V 4	-0.0569	-0.1344	-0.0124	0.0204	-0.0414	0.0474	0.0372	0.0656	0.0413	-0.0960	-0.0914	-0.0843
SCH-V 5	-0.0044	-0.1209	0.0681	0.0112	0.0064	0.0260	0.0961	0.0685	0.0425	-0.0899	-0.0857	-0.0790
SCH-V 6	0.0363	0.2324	0.0955	-0.0661	-0.0246	-0.0605	-0.0869	-0.0886	-0.0485	-0.1070	-0.1019	-0.0940
SCH-V 7	-0.0571	0.1049	0.0128	-0.0695	-0.0677	-0.1294	-0.0715	-0.1268	-0.1179	-0.0789	-0.0751	-0.0693
SCH-V 8	-0.0953	-0.0044	-0.1219	0.1057	0.1182	0.0840	0.0596	0.0726	0.1005	-0.0864	-0.0823	-0.0758
SCH-V 9	-0.0044	-0.1265	-0.0172	0.0338	0.0588	0.0068	0.0310	0.0586	0.0191	-0.0899	-0.0857	-0.0790
SCH-V 10	-0.0038	-0.0167	0.0005	0.0106	-0.0132	0.0113	0.0215	0.0238	0.0391	-0.0808	-0.0770	-0.0710
SCH-V 11	-0.0231	-0.0599	0.0352	-0.0456	-0.0047	0.0189	-0.0294	0.0236	-0.0648	-0.0917	-0.0873	-0.0805

Table 45 (cont.)

CORRELATION MATRIX

	SCH-V 4	SCH-V 5	SCH-V 6	SCH-V 7	SCH-V 8	SCH-V 9	SCH-V 10	SCH-V 11
READING	-0.0312	0.0251	0.0362	0.0912	0.0157	-0.1185	0.0051	0.0225
GUIDANCE	-0.0533	0.0681	0.0040	0.0450	0.0499	-0.1054	-0.0313	-0.0950
FILMTAPE	0.0120	-0.0387	0.0620	0.0916	0.0680	-0.0264	-0.0539	0.0325
COMPUTER	-0.0972	-0.0711	0.1583	0.0134	-0.1007	-0.0394	-0.0942	-0.0699
MICROFI.	-0.0445	-0.0491	0.0222	0.0708	0.0387	0.0148	-0.0165	-0.0719
SORTCRDS	-0.0290	-0.0185	0.0995	0.1107	-0.0448	-0.0353	-0.0550	-0.0358
WORK EXP	-0.0595	-0.0363	0.0601	0.1256	0.0221	-0.0461	-0.0290	0.0128
CAREER D	-0.1164	-0.0827	-0.1427	0.1790	-0.0995	-0.1614	-0.1404	-0.1509
PLANT T.	-0.0314	0.0248	0.0105	0.0978	0.0395	-0.0495	-0.0683	-0.0243
PLAN CRS	-0.0318	-0.0317	0.1179	0.0541	-0.0570	-0.0185	-0.0338	0.0256
SEX	-0.0064	-0.0217	0.0456	0.0553	0.0168	0.0476	-0.0279	-0.0164
GRADE 1	0.0138	0.0048	-0.1292	0.0402	0.0376	-0.0529	0.0126	0.0148
GRADE 2	-0.0569	-0.0044	0.0363	-0.0571	-0.0053	-0.0044	-0.0038	-0.0231
RACE	-0.1344	-0.1209	0.2824	0.1049	-0.0044	-0.1265	-0.0167	-0.0599
PLANS	-0.0124	0.0681	0.0955	0.0128	-0.1219	-0.0172	0.0005	0.0352
PURE VOC	0.0204	0.0112	-0.0661	-0.0695	0.1057	0.0338	0.0106	-0.0456
OCC-SPEC	-0.0414	0.0064	-0.0246	-0.0677	0.1182	0.0588	-0.0132	-0.0047
GEN OCC	0.0474	0.0260	-0.0605	-0.1294	0.0840	0.0068	0.0113	0.0189
S.A.I.V.	0.0372	0.0961	-0.0869	-0.0715	0.0595	0.0310	0.0215	-0.0294
SALARIES	0.0555	0.0685	-0.0886	-0.1268	0.0726	0.0588	0.0238	0.0236
JOB VOC.	0.0413	0.0425	-0.0485	-0.1179	0.1005	0.0191	0.0391	-0.0648
SCH-V 1	-0.0960	-0.0899	-0.1070	-0.0789	-0.0864	-0.0899	-0.0808	-0.0917
SCH-V 2	-0.0914	-0.0857	-0.1019	-0.0751	-0.0823	-0.0857	-0.0770	-0.0873
SCH-V 3	-0.0843	-0.0790	-0.0940	-0.0693	-0.0758	-0.0790	-0.0710	-0.0805
SCH-V 4	1.0000	-0.0933	-0.1109	-0.0818	-0.0896	-0.0933	-0.0838	-0.0951
SCH-V 5	-0.0933	1.0000	-0.1040	-0.0767	-0.0839	-0.0874	-0.0785	-0.0891
SCH-V 6	-0.1109	-0.1040	1.0000	-0.0912	-0.0998	-0.1040	-0.0934	-0.1060
SCH-V 7	-0.0818	-0.0767	-0.0912	1.0000	-0.0736	-0.0767	-0.0689	-0.0781
SCH-V 8	-0.0896	-0.0839	-0.0998	-0.0736	1.0000	-0.0839	-0.0754	-0.0856
SCH-V 9	-0.0933	-0.0874	-0.1040	-0.0767	-0.0839	1.0000	-0.0785	-0.0891
SCH-V 10	-0.0838	-0.0785	-0.0934	-0.0689	-0.0754	-0.0785	1.0000	-0.0800
SCH-V 11	-0.0951	-0.0891	-0.1060	-0.0781	-0.0856	-0.0891	-0.0800	1.0000

Table 46

Correlations between Test Scale Variables and the Variables Shown as Significant or Highly Significant in Table 44

Explanatory variable	Test scale variables				
	Occ. Spec.	Gen. Occ.	SAIV	Salaries	Job Vocabulary
Sex			.07		
Grade 12 vs. 10,11		.05			.09
Race		-.22		-.14	-.27
Plans	-.21	-.30	-.16	-.15	-.26
Pure vocabulary	.32	.48	.39	.28	.64
Counselors		.10			.11
Film/tape		-.12			-.14
Computers				-.07	
Sorting cards		-.14	-.11	-.10	-.14
Work experience		-.17	-.11		
Coursework	.04		-.02		

Table 47

Percentage of Students at Each School Who Indicated That None of the Resources Had Been the Cause of Their Engaging in Career Decision-Making Activities

Activities	Schools											
	Nonpov/ Computer (N=179)	Nonpov/ Exper. (N=123)	Nonpov/ Materials (N=129)	Nonpov/ Publics. (N=121)	Nonpov/ Instruct. (N=135)	Nonpov/ Minimum (N=113)	Pov/ Computer (N=168)	Pov/ Exper. (N=107)	Pov/ Materials (N=112)	Pov/ Publics. (N=119)	Pov/ Instruct. (N=96)	Pov/ Minimum (N=124)
Changed mind about occupation	12.8	17.9	14.7	12.4	14.1	14.2	17.9	22.4	26.8	21.8	15.6	16.9
Added occupations for consideration	15.1	11.4	7.0	12.4	16.3	17.7	13.1	15.9	17.9	18.5	18.8	9.7
Dropped occupations from consideration	13.4	17.1	10.9	13.2	18.5	15.0	17.9	19.6	17.0	26.9	13.5	16.1
Continued consideration	18.4	20.3	14.0	11.6	20.7	15.0	23.8	17.8	19.6	16.0	22.9	25.0
Read more information	7.3	8.9	8.5	9.9	8.1	7.1	11.9	7.5	3.6	16.0	14.6	12.1
Wrote for more information	7.8	13.0	13.2	11.6	14.1	17.7	16.7	16.8	17.9	15.1	15.6	17.7
Watched someone working	11.7	13.0	17.1	14.9	13.3	9.7	21.4	17.8	19.6	29.4	18.8	25.0
Took part in activities of an occupation	11.7	17.9	14.0	11.6	15.6	15.0	22.0	17.8	17.9	23.5	17.7	21.0
Talked to someone about his/her occupation	15.6	16.3	15.5	17.4	14.8	24.8	20.8	15.0	31.3	24.4	26.0	23.4
Talked to parents about an occupation	29.1	26.8	16.3	20.7	33.3	28.3	30.4	24.3	46.4	42.9	32.3	35.5
Talked to friends about an occupation	27.4	21.1	21.7	14.9	25.9	28.3	26.8	19.6	43.8	30.3	25.0	24.2

Table 48

Most Influential Resource Available at the School and Percentage of Students Citing It for Causing Students to Engage in Various Activities Related to Occupational Choice

Activities	Schools											
	Nonpov/ Computer (N=179)	Nonpov/ Exper. (N=123)	Nonpov/ Materials (N=129)	Nonpov/ Publics. (N=121)	Nonpov/ Instruct. (N=135)	Nonpov/ Minimum (N=113)	Pov/ Computer (N=168)	Pov/ Exper. (N=107)	Pov/ Materials (N=112)	Pov/ Publics. (N=119)	Pov/ Instruct. (N=96)	Pov/ Minimum (N=124)
Changed mind about occupation	A 19.0	A 18.7	A 24.0	A 14.0	A 20.7	A 20.4	A 17.3	A 15.0	A 23.2	A 16.0	A 18.8	A 29.0
Added occupations for consideration	A 25.1	A 26.0	A 24.8	B 18.2	A 14.8	A 22.1	A 17.3	B 12.1	A 32.1	A 26.1	A 25.0	A 22.6
Dropped occupations from consideration	A 16.2	A 9.8	A 13.2	A,B* 9.1	B 6.7	A 15.9	A 10.1	A 9.3	A 12.5	A 12.6	A 8.3	B 11.3
Continued consideration	A 9.5	A 7.3	A 11.6	A 14.0	A 11.9	A 20.4	A, B* 7.7	A 9.3	A 22.3	A 21.0	A 11.5	A 11.3
Read more information	A 34.6	A 35.0	A 38.0	A 24.0	A 38.5	A 42.5	A 39.9	A 31.8	A 52.7	A 36.2	A 32.3	A 41.1
Wrote for more information	H 9.5	A 5.7	A, B, G* 2.3	B 9.1	A 8.9	A 10.6	A 5.4	A 5.6	A 15.2	B 5.9	A 5.2	A 7.3
Watched someone working	I 6.1	I 6.5	G 5.4	G 5.8	I 4.4	I 5.3	G 7.1	B, G* 6.5	C 7.1	G 5.9	B, G* 4.2	G 11.3
Took part in activities of an occupation	G 7.3	G 5.7	G 7.0	G 5.8	G,J* 3.7	H 4.4	J 5.4	H 9.3	G 9.8	J 7.6	G 9.4	G 12.1
Talked to someone about his/her occupation	B 11.7	H 15.4	B 12.4	B 11.6	B 11.1	B 11.5	B 13.7	B 14.0	B 11.6	B 6.7	B 10.4	B 12.1
Talked to parents about an occupation	A, B* 9.5	B 7.3	B 6.2	A 5.8	A 6.7	A, B* 9.7	A 7.7	B 10.3	B 8.0	A 5.9	B 6.3	B 13.7
Talked to friends about an occupation	G 10.1	G 9.8	G 9.3	G 5.8	G 11.1	G 15.9	G 19.0	G 16.8	G 17.9	G 11.8	G 10.4	G 25.8

*Tie.

Resources

A. Reading materials
B. Guidance counselor
C. Film, tape, etc.
D. Computer
E. Microfiche
F. Sorting cards
G. School-arranged work experience
H. Career day or career fair
I. School-arranged plant tour
J. Career planning course or unit

CHAPTER IV

OBSERVATIONS AND INTERVIEWS

The study teams spent from three to five days at each school administering the questionnaire, interviewing students, talking with counselors and teachers and other staff members, and observing the career information resources and the way they were handled.

The number of students interviewed--all of whom volunteered--ranged from 11 to 19; everyone who signed a consent form and showed up at the scheduled time was interviewed. The main purpose of the interviews, as described in the proposal, was to supplement information on the questionnaire and find out what the students' attitude was toward the various resources they had used. The study team members went over the questionnaires of students scheduled for interviews and noted points worth asking about. In addition, the interviews followed an interview schedule in order to assure uniformity across schools. The interview schedule is reproduced in Appendix B .

The observations were less uniform than the interviews. They varied depending on conditions at the school. Some of the schools were expansively cooperative; others kept us to our promise to be as unobtrusive as possible. Nevertheless, at no school were we denied access to the career resources or to a knowledgeable staff member as a source of information.

The observations and interviews for a school were written up immediately after the visit to that school and long before the data analysis began lest the writer be unconsciously influenced by knowledge of the outcome. These write-ups appear in Appendix C .

In this chapter we will first look at the pairs of schools that constitute the types to see how the resources that make up the type are used and how students regard them. Then we will look at all the schools to see what generalizations we can make about career resources and their usage. Finally, we will look at the two schools that scored the highest on the six scales and the two that scored the lowest to see if we can find in the interviews and observations some explanation for the scores.

The Six Types

Computer. Several features of the two computer schools are striking. First, the number of students that actually were able to interact with the computer was quite small. At the nonpoverty school 80 students used it per month. Since the enrollment was about 1,000, some students would be denied access to the computer if the rate of 80 per month held throughout the year. At the poverty school the study team never saw the terminal in use at all. One reason for low usage is that there was only one terminal at each school.

At the poverty school, adverse economic conditions played a part in reducing use of the computer.

Secondly, the computer seems to have been used mainly for direct access of occupational information rather than for enabling students to retrieve lists of occupations that meet their individual specifications (structured access). At the nonpoverty school, counselors considered the computer as simply an adjunct to other career activities, and students apparently did not take the initiative in searching for agreeable occupations. At the poverty school, counselors said that the computer was used "inductively" and as an information tool. Perhaps inductively refers to structured access. In the interviews, however, only two students mentioned something like structured access: At the nonpoverty school, one, who had already made up his mind, used the computer just to see what the other possibilities were. At the poverty school, one student said that he had used it to narrow down the number of occupations he was considering. All of the others interviewed apparently used the computer merely as a page turner.

Third, for the most part students seemed to like the computer. It was more convenient and immediate than other resources. There were exceptions: One student thought the computer had failed to give the true flavor of an occupation he was familiar with, and another thought she got nothing on the computer that she could not have gotten elsewhere.

Fourth, students who used the computer also used other resources as well.

Fifth, some students preferred to use the computer at a remote center rather than on campus because there were more terminals at the center and because students were allowed to use them without adult assistance. This same phenomenon appeared at a school of another type, Nonpoverty/Publications. A student using the computer at that school resented the fact that printouts could be obtained only by requesting them from an adult.

Experiential. The two experiential schools looked different from each other. At the nonpoverty school, there were numerous nonexperiential resources (including a computer terminal) available to the students. At the poverty school experiential resources were about all there were. At the nonpoverty school, seminars conducted four times a year by various professionals in the community, the career units in the classrooms, the work-training programs, and the career days seemed to stimulate use of publications to get information. At the poverty school, neither the three work-study programs, career days, nor work experience seemed to lead to further career exploration. Career days were favorably regarded at the nonpoverty school, but were criticized at the poverty one for being unrelated to student interests and for painting an unrealistically rosy picture of the occupations under discussion.

At both schools the experiential programs were criticized for being too narrow. At the nonpoverty school, students focused on the nature of work activities with little regard for information about preparation for entry or salary possibilities. At the poverty school there was little career exploration of any sort, and observers thought that the students' jobs provided needed income but little in the way of career information.

Materials. At both materials schools the use of multiple resources is apparent. In fact, students at the nonpoverty school preferred publications to microfiche. They also liked a career course in how to use resources. At the poverty school, career exploration seemed to occur in two steps. Students would be stimulated by a film and then would follow up their interest through reading or use of microfiche. At this school counselors played a very active role mediating between the two steps. The schools differed markedly in their students' attitude toward microfiche. At the nonpoverty school, students disliked it; at the poverty school, they were attracted by the mechanics of using it, although some found it inconvenient if they wanted to take materials home.

Publications. At neither of the publications schools do reading materials show to advantage. Students at the nonpoverty school thought their guidance counselors were a better resource. Interviewees criticized the materials on various grounds--for being hard to read, out of date, or confined to the military. Publications that were consulted in conjunction with vocational-technical curricula were more highly regarded.

At the poverty school there seemed to be little use of publications or, indeed, anything else. Nearly all of the fourteen students interviewed were critical of the school's career information system. Either the school did not have the stock of publications it claimed for itself, or there was no apparatus at the school for helping students recognize what information they needed and how they should go about accessing it.

Instruction. At the nonpoverty school there is apparently more emphasis on counselors than on formal instruction. Not one of the twelve interviewees mentioned having taken a course in career planning.

At the poverty school, on the other hand, a course called Life: Myth and Reality, available to tenth graders, was mentioned favorably by several interviewees. Much of the instruction concerned getting into college rather than choosing an occupation. As with the materials type, instruction seems to require a two-step process, arousal of interest in the instructional unit and a follow-up through some other resource, mostly reading.

Minimum. Of the two minimum schools, one (poverty) seems truly minimum. At that school students who wanted occupational information were almost entirely on their own. Seven of the eleven interviewees said that career resources at the school were practically nonexistent, and

those students who had obtained any information about their occupation got it outside of school.

The nonpoverty/minimum school is a different story. This school has a considerable variety of different resources, including guidance counselors, a connection to the state computer system, a vocational program, and numerous publications. None of these resources was emphasized to the extent that would qualify the school as one of the other five types. Most of the fifteen interviewed students thought their guidance counselors were their most useful career resource. However, there did not appear to be much structure in the way the resources were used.

Generalizations across All Schools

Several themes emerge from these observations and interviews.

1. The importance of counselors and guidance professionals is apparent. They are mentioned as playing an important role in eleven out of the twelve schools. (The exception was Poverty/Minimum.) Sometimes their role is facilitative, and sometimes they loom as the major resource at the school, regardless of type.

2. Schools commonly have and use a considerable variety of resources. For example, students had access to a computer terminal at six of the schools, not just at the two computer types. Publications are the most common secondary resource.

3. Military brochures are everywhere. At nine of the schools they were specifically mentioned in the observational write-up or interviews. They seem to carry little weight with students, few of whom mention them favorably.

4. Economic conditions are a constant worry. Nine of the schools refer to this matter in one context or another. At one of the computer schools, use of the computer was restricted by a lack of money. At other schools, counselors feared that their programs would be cut. At still other schools, students were faced with a poor job market upon graduation.

5. What students would like to get from the resources they consult is information about "what it's really like" to work at an occupation. They might be hard put to explain what they mean by this expression, but it seems clear that they are skeptical about speakers or pamphlets or films that gild the occupations they are concerned with. Sometimes this desire to get the feel of an occupation seems unrealistic, as when students criticize objective information for not communicating subjective aspects of work. Sometimes, too, it seems to cause students not to look for information they need, as in the case of work-experiences that fail to stimulate curiosity about other aspects of the occupations than the activities they entail.

6. None of the types, at least in these twelve schools, exists in a pure form. For instance, the materials type seems to require publications and counselors to supplement the activities generated by the materials themselves. Or, as another example, the use of computers is not representative of any ideal. The unique aspect of computers is their ability to combine and recombine information in a multitude of ways to meet specifications imposed by quite different individuals. Yet the computer systems are hardly ever used this way. They are used for information retrieval, a function performed adequately and inexpensively by a book with a decent index. Furthermore, access to the computer was limited by the lack of terminals and (often) by the need for a professional to be present to help the student out. Finally, we note that the experiential programs do not seem to generate career exploration.

Comparison of High- and Low-scoring Schools

It would be interesting to ask someone who had not seen the outcomes of the test scores to rank-order these schools on the basis of the observations and interviews. Would this person have selected Poverty/Materials and Nonpoverty/Minimum as high scorers, and Nonpoverty/Publications and Poverty/Experiential as low scorers?

We doubt it.

There are some similarities and contrasts that can be noted. Observers at the highest scoring school (Poverty/Materials) were struck by the warmth of the staff--counselors and teachers--and their interest in the students. The research team's feelings on this matter were much stronger than appears from the write-up, which tends to be restrained because of the need to be objective. At the other high-scoring school, observers also noted that the guidance counselors were helpful and receptive. But in other respects the schools do not appear to be distinctively alike.

At the poverty/experiential school we can point to a lack of resources other than work-experience as a possible "cause" of the consistently low scores. A comparison of this school with the top-scoring Poverty/Materials school reveals many demographic differences. The experiential school had more non-Whites, fewer students in the academic program, fewer students planning to go to a four-year college, more students in work-experience programs, more attendees at career days, and more students enrolled in courses in career planning. Yet none of these differences seems conclusive.

There is nothing at the other low-scoring school (Nonpoverty/Publications) that explains its low scores. The write-ups suggest a somewhat

gray atmosphere. Counselors feel that many students are beyond their reach--the "don't want nothin'" young people.

A person ranking these schools on the basis of observational information might be inclined to place the Poverty/Publications and Poverty/Minimum schools at the bottom. They seem to be the polar opposites of the high-scoring Poverty/Materials School. These schools offer their students little or nothing in the way of career information counseling or resources. Yet both schools ranked near the middle on the test scales. (See Table 20, Chapter III, Schools 9 and 11.)

We must conclude that it is impossible to derive from these data a set of conditions that will produce effective career information acquisition as measured by the test scales. A friendly atmosphere and helpful, receptive guidance counselors seem essential. But no particular resource or delivery system, by itself, can be pointed to as the key element.

This is not to say that the resources do not count. Students do acquire information, it is essential to the rational conduct of life, and it has to come from somewhere. What seems to be happening is that it comes from such a variety of different sources, formal and informal, that no single resource stands out. Many intangibles, such as the ambience of the school and the community to which it belongs, undoubtedly play a part.

Summary

Analysis of observations and interviews was undertaken for each type of career information delivery system, for "themes" that might recur in many schools regardless of type, and for comparisons of schools that scored high and low on the test scales to see if some factor could be identified that was associated with performance on the test. The results were generally ambiguous. Even though a school may emphasize one type over another, it almost always uses many different resources, especially counselors. The use of computers does not take advantage of their unique qualities; they are used primarily as convenient occupational information resources with insufficient regard for their capacity for identifying occupations that meet individual specifications. Also, adult assistance is often necessary, an aspect of computers that students seem to dislike. Experiential types often lead to a narrow focus on work activities of a single occupation rather than to an expansion into occupational exploration. Materials seem to be the first step in a two-step approach to career selection; the materials (often films) arouse an interest that is then followed by means of another resource, usually publications. Neither of the publications schools was impressive, and it appears that use of publications is dependent on some preceding activity (a film, course, or counselor) that stimulates the search for further information. Instruction appears to be similar to materials as a type in that it seems to be the

first step in a process; it stimulates interest, which then leads to further exploration, usually through publications.

Some matters were mentioned so frequently as to constitute themes in the analysis. Counselors are extremely important in the implementation of any type. Schools use a variety of resources, with the result that none of the specimen schools could be considered as a "pure" type. Military brochures are prevalent but seem to have little effect on students. Economic conditions threaten guidance programs in two ways--budget cuts in guidance and lack of employment opportunities for graduates. The main thing that students would like to get from their resources is the feeling of what "it's really like" to work; they are skeptical about much of the information they get from their school resources, especially speakers brought in for career days.

The comparison of schools that scored high on the test scales with those that scored low bears little fruit. A warm, friendly atmosphere at the school and the presence of friendly and accessible counselors seem conducive to high scores.

CHAPTER V

SUMMARY, IMPLICATIONS, RECOMMENDATIONS

Summary

Design. This was a study to determine the comparative effects of six types of career information delivery systems in 12 carefully selected schools. Effects were defined by a questionnaire that some 1500 students answered. It tested the students' knowledge in six areas considered important to career decision-making; that is, the study, and hence the questionnaire, was based on the assumption that in American society a free choice of occupation is a desirable thing, and that for the choice to be rational (as opposed to impulsive or romantic or unrealistic), the choosers must possess substantial information about the options open to them and competencies in interpreting and using such information. The six scales of the questionnaire were therefore constructed to reveal the respondents' grasp of the specialized knowledge and understanding which are relevant to intelligent choice of occupation.

Questionnaire. The six scales of the questionnaire concerned students' knowledge of an occupation they themselves had specified as one they were contemplating entering; their general occupational information; their ability to distinguish between skills, abilities, aptitudes, and values; their ability to interpret a paragraph about earnings; their understanding of words commonly used in conveying occupational information; and their ability to discriminate between occupations that might satisfy their values and occupations that would not. The first and last scales were scored separately for each student; that is, the "right" answers depended in the first case on which occupation the student had specified and in the last case on the importance he or she had assigned to the values.

Other items in the questionnaire collected demographic data and information about the various career information resources the students had used, the frequency of use, participation in career decision-making activities, and the extent to which such activities were the result of use of the resources.

If use of a particular type of career information delivery system or use of a particular type of resource had produced a clear effect on the students' occupational information or their career awareness or their decision-making behaviors, this study had a good chance of discovering it.

Findings. The major finding of the study is that there were no clearly discernible effects attributable to the resources available at the schools. There were also no effects attributable to the poverty level of the schools.

There were differences in the scores attained at individual schools, and these tended to be consistent across all the scales. A school that scored high or low on one scale tended to score the same way on the other scales. But these differences were associated with schools, not types; one of the two schools representing a type might be a high scorer and the other a low scorer.

The regression analysis showed that vocabulary scores consistently outweighed all other variables in predicting scores on the other scales. It also revealed an occasional statistically significant relationship between use of a type of resource and score on a scale. Such relationships were, however, not consistent across the scales, and the correlations were small and were, in fact, often negative.

Implications

In attempting to explain the scarcity of differential effects due to resources, we have to rely on indirect evidence, observational data, and our own experience with occupational information and career guidance. We now have considerable data from this study and its predecessor (Chapman & Katz, 1981) on the resources that students actually use and on the amount of use they give them. We also have the more subjective data derived from the interviews and observations on how the students regard the resources and what led the students to use them. Although inferential and subjective data of this sort are not amenable to statistical tests, they are not without weight.

Role of vocabulary in the findings. The pronounced and consistent relationship between scores on the vocabulary scale and scores on the other occupational information scales is notable. One possible interpretation of this finding is that understanding occupational information and knowledge of word meanings are manifestations of the same underlying verbal ability. We would not deny that some minimum level of verbal comprehension is important. Such resources as publications, computers, and microfiche communicate through the written word; and counselors, speakers at career days, and instructors in career courses communicate through the spoken word. Clearly, verbal skills are useful in acquiring information.

Another interpretation is that most existing resources communicate information at an unnecessarily high level of verbal difficulty. These studies did not explore the verbal level required to understand the information as rendered in any resource. However, experience (independent of the studies) in communicating career information to students with a wide range of abilities makes the researchers believe that it can be delivered in a form comprehensible to many poor readers. There are limits, of course, but it would be a mistake to conclude that good verbal ability is essential for acquiring occupational information if that information has been presented with the needs of poor readers in mind.

Limitations of the resources. What, then, is the explanation? In attempting to answer this questions, we will draw on the conceptual framework worked out for this study (Chapman, 1979), the findings from Study 1 (Chapman & Katz, 1981), and our own experience over the years in working with a career information delivery system.

The resources in this study concern, for the most part, only information about occupations. But this is only half the information that goes

into the choice of career. The other half, as far as we can tell, is largely neglected in the schools we studied.

If our surmise is correct and the neglect really exists, it is almost certainly attributable to failure to recognize a crucial difference between guidance and instruction. As Katz has observed (Katz & Chapman, 1978, p. 57), career guidance resembles instruction

> in that it aims to provide the acquisition of knowledge, the development of understanding, and the mastery of competencies. It differs, however, in that a substantial portion of the knowledge must be derived from the learner himself. In guidance, the learner is part of the content.

For this reason, the conceptual framework proposed a model consisting of two realms of knowledge, one concerned with occupations and the other with self. The two realms interact; knowledge of the chooser's values, abilities, and resources leads to the search in the realm of occupations for information about the counterparts of these qualities. Knowledge of occupations and what they offer as rewards and demand for entry leads, in turn, to a reappraisal of self. Thus knowledge of self provides the context in which the pursuit of occupational information takes place.

Lack of context. In the final chapter of our report on Study 1, we speculated on why students, surrounded by resources full of facts about occupations, seemed to prefer such uncertain alternatives as friends, parents, relatives, or nothing at all. We suggested "that one of the problems students have when they encounter the mountains of formal resources is the lack of a usable context in which to place the information" (Chapman & Katz, 1981, p. 252). We have not found anything in the study of effectiveness that would cause us to revise this opinion. We believe that the way the resources are applied by the schools has tended to minimize the realm of self, with the result that students do not use the resources efficiently or, indeed, very much at all.

There is some indirect evidence for this assertion. The regression analyses (Tables 38-42, Chapter III) showed that some of the resources made statistically significant but small contributions to scores on various scales. Some of these contributions were negative. That is not to say that use of the resource with the negative regression weight resulted in a loss of useful knowledge; it says merely that the group of students using the resource scored significantly lower (in the statistical sense) than students who had used other resources. The resources that were associated with (statistically) significant negative effects were work experience (for Gen. Occ. and SAIV--Tables 39 and 40); sorting cards (for Gen. Occ., SAIV, Salaries, and Job Vocab--Tables 39-42); film/tape (for Gen. Occ. and Job Vocab.--Tables 39 and 42); and computers (for Salaries--Table 41). As we saw in Chapter III, the negative performance of computers on the Salaries scale is probably due to the peculiar way that GIS treats salary information.

Work experience, films, and sorting cards function less as comprehensive sources of information than as motivators to look for information elsewhere. They actually contain little information of the kind sought in the questionnaire. They constitute the first step in the two-step

process mentioned in the previous chapter. Apparently, for many users they serve as a substitute for use of other resources; but the structured context that would have led students to the second step was missing.

Lack of use. The data from Study 1 (Chapman & Katz, 1981) on the usage of various resources is also indirect confirmatory evidence. About 20 percent of students had never used reference books (including the ubiquitous Occupational Outlook Handbook), nearly one-quarter had never used magazines, and about one-third had never read pamphlets, briefs, or kits (Table 65, p. 187). At schools that had a computer-based system, about half the students never used it (Table 66, p. 188). Over half the students who could have used the microfiche did not do so (Table 68, p. 190). One-third of those with access to sorting cards never used them (Table 69, p. 191). Nearly half the students had never talked with a counselor about occupations (Table 70, p. 192). And only about half of the students had ever been exposed to a special course in career planning, and even fewer (39 percent) had attended a career day (Table 71, p. 193).

Information from interviews and observations is notoriously unreliable, and we do not base any conclusions on it. We collected observational data in order to supplement and explicate what we learned from the questionnaire. Yet, for what they are worth as evidence, the observations and interviews seem to confirm the impression that not much in the form of an integrated career guidance program exists in these 12 schools. Even in the two schools selected as the instruction type, students failed to mention anything like a comprehensive program of guidance that would have provided a context for the occupational information resources. Five of the thirteen students interviewed at one of the instruction schools mentioned as useful a 10th grade course with units on career planning. Observers could see no basis for the instruction classification at the other school.

The closest thing to a context that we could find in the interviews and observations was frequency of references to counselors. Whatever context there is seems to be provided by this group. At one of the publications schools, students preferred counselors to reading materials. At the two top-scoring schools, observers noted a particularly warm relationship between the students and staff--the staff cared. But counselors were mentioned at nearly all the schools. Their quality with respect to career guidance is unknown. In any case, their influence would be felt as individual persons, not as a coordinated program.

Incomplete use of computer systems. The evidence on the use of the computer systems is disappointing because these resources have the greatest potential for being comprehensive. Even though the systems in these schools do not bring the student to that knowledge of self which we see as essential to the intelligent use of occupational information, they can provide, in a single resource, linkages between knowledge of self and knowledge of occupations. These linkages are the structured access routines which allow students to specify a set of characteristics they would like to find in occupations, and the computer then retrieves

occupations that meet the specifications. Other resources either do not contain such linkages at all or, if they do, require use of at least two different resources. Sorting cards, for instance, provide linkages, but users must consult a separate resource for occupational information.

There is very little evidence from the interviews or observations that the structured access feature of the computer system was actually used. When students refer to computers, they refer to them as if they were merely another source of occupational information--a quick and flashy Occupational Outlook Handbook. One student at the Poverty/Computer school did say that the computer had "suggested" two occupations; another used it to "narrow down" his list of candidates. Otherwise, the only references to the computer were as occupational information dispensing machines. Thus is suggested the gap left by the failure to engage students in structured self-appraisal as an integral component of the search for information.

Textbooks without teachers. What we seem to find in these resources is vast compilations of occupational information that are like the compilations of information about English literature or American history in textbooks on those subjects. What is missing is the teacher who helps students through the books, interpreting, testing, correcting. Few students feel capable of coping with a textbook by themselves. But that is what is expected of them when it comes to these compilations of occupational information. And although instructional materials can be rendered in a form, such as programmed instruction or computer-assisted instruction, that reduces the need for a human teacher, the career resources have not been rendered that way. They are not sufficiently interactive--not just in a technical sense but also in a substantive sense: they do not help students see the relevance of information to who they are and what they want--to their own examined values.

The analogy between career resources and textbooks is not perfect. For one thing, some of the resources (films, tapes, experiential forms) are not compilations of information, though they imply a use of a compilation at some later stage of career planning. For another thing, the content of a history textbook is permanently divorced from the learner, whereas, as we have seen, the learner is part of the content of career information. But those anomalies do not alter the general form of the analogy: Students need help.

Quality of Resources

In Study 1 we examined the content of various resources and found much to criticize. Although the amount of coverage looked impressive when measured against a checklist, the information about some areas appeared misleading and beset with contradictions. Particularly weak was the area linking personal attributes with those of the occupation. We commented on the simplistic, inconsistent, and confused treatment of the levels of skill for Data, People, Things, and the treatment of interests,

aptitudes, and temperaments in the Dictionary of Occupational Titles and its companion piece, the Guide to Occupational Exploration. These weaknesses appear in the DOT Data Display Tape, whence they are picked up by numerous other dispensers of occupational information. Since linkages between the two realms of knowledge are a necessary element of the context we sought and did not find, the deficiencies seemed particularly distressing.

What Study 2 seems to tell us is that correcting errors and inconsistencies in occupational information is a necessary but not sufficient agenda for improving resources. Students need help first in learning to ask good questions; then it will be important to provide them with accurate answers. They do not now address questions to many matters that are really important to them. It is just this failure of any resources to help students define comprehensively what they want to know and then help them seek systematically the relevant information that appears to account for the lack of effects attributable to resources. As we saw in Study 1, the main thing students were looking for was information about the prerequisites for a job and the salary it would pay (Chapman & Katz, 1981, Table 79, p. 225). The main things they talked about with counselors were high school courses and a related topic, preparing for an occupation (Table 70, p. 192). In Study 2 the only data on what students were thinking about came from the interviews. A few students specifically mentioned changing their minds because of information they had got from a resource. But the main impression the interviewers got was that the use of resources was haphazard and unsystematic.

This is not to say that the deficiencies discussed in Study 1 should not be corrected. If a proper context for career guidance were somehow established, the linkages would take their proper place in it.

In addition, the study indicates that there may be weaknesses in the way occupational information is communicated. The fact that only a tiny proportion of students got the right answer to the question about salary range suggests that as much information as possible should be explicit. Not so much should be left to implication or interpretation by the student.

This observation is also true of information about values. On the Gen. Occ. scale only 27 percent of respondents were able to pick from a list of 10 occupations the three that required unusual leadership, and only 24 percent identified the occupation that allowed little opportunity for independent decisions. (The students performed better on the questions about values on the Occ. Spec. scale where emphasis was on information about a single occupation of special concern.) Students nearly always have to infer information about values, if they seek it at all, for it is seldom explicitly stated in the resources.

Another area in which the students seemed deficient was information about the labor market--particularly important in encompassing the "reality" component in decision-making. Only one percent picked the three occupations with the fewest workers, only two percent the occupations

with many workers, and only two percent the occupations requiring graduate study. Knowledge of this sort is useful in estimating the "odds" that a choice will turn sour. The odds that favor successfully completing a short program of training over a long one or finding work in an occupation that employs many over one that employs few should not in themselves determine a choice; but informed and rational decision-making should be able to take them into account.

Students did better on another aspect of decision-making, discriminating between two options on the basis of their capacity to satisfy values. Even so, only about 40 percent of the respondents were able to handle the situation successfully. Any conscious choice between options must invoke values, although the decision-maker may not be aware of it; the thing chosen is seen as having more value than the things not chosen. Therefore making explicit the values that figure in the choice should make the decision more rational than when the values are hidden. But the resources are almost totally silent about values. Students are left to infer as best they can whether or not an occupation can satisfy their values, to judge with no assistance from the resources how occupations compare on their capacity to satisfy values, and to make up their own strategies for reaching a decision that finally will be based--consciously or unconsciously--on values. Yet we know from our research and our experience with occupational information, that information about values can be made explicit, that occupations can be rated or graded on their capacity to satisfy at least some values, and that this information can be used in a way that makes decision-making transparent to the student.

Recommendations

Our recommendations are implicit in the preceding discussion.

Clearly, a major problem is to get the students to use appropriate resources more frequently and effectively than they do now. We think this can be done by providing a complete context for career decision-making.

1. Establish a curriculum for career decision-making. We recommend that the schools establish a coherent curriculum for career choice. This should not be in the form of a noncredit course that meets once a week or a "unit" tucked away in the English or Social Science program. It should be a full-fledged course for which credit is granted and for which students are held accountable. It should provide for assessment of the students' needs, interests, values, aptitudes, and preferences, with a clear indication of how these qualities differ from one another. It should show how occupational information is rendered in various career information delivery systems and how knowledge of needs, interests, values, aptitudes, and preferences can be used to guide the search for their counterparts in the realm of occupational information. And it should include some strategy for decision-making that will help students sort out the masses of often dissonant data.

2. Use of experiental materials and programs. We do not see the resources for such a curriculum as being confined to formal instruments like interest inventories or the General Aptitude Test Battery with respect to the learner's realm, nor to the Occupational Outlook Handbook and the Dictionary of Occupational Titles in the occupational realm. We are aware of the plaintive cry of so many of the students who were interviewed: "Tell us what it's really like." Work experience, career days, films all have their place. The curriculum, however, should be so articulated that these resources would lead somewhere--namely, to the better knowledge of self and the relationship between that knowledge and the search for occupational information. Schools should systematically talk with former students who are employed and make the fruits of these talks available to current students via tape, film, or personal contact. Again, this activity must be articulated with the career education curriculum. It must lead somewhere.

3. Resources for educational planning. For high school students, the curriculum must obviously include information about postsecondary education and training. Many schools seem to do their best job in this area, at least with respect to providing their students with information about colleges and how to get into them. This area of the curriculum should not be, as it often is now, an end in itself in order to get graduates into college. It should be articulated with the career aspect of the curriculum so that the high school program and selection of college form an integrated endeavor to formulate and reach rational career goals.

4. Improvement of resources. The resources themselves should be improved in order to correct the deficiencies discussed in this report and the report for Study 1. If the resources are to be used for career planning by high school students, they should be revised to serve better the goals of career planning. Such a revision would require accepting a rationale for career guidance that was based on research and some theoretical considerations. Values need to be treated explicitly because their role in decision-making cannot be escaped. The simplistic treatment of interests and temperaments should be reconsidered and their confusion with values should be untangled. Certainly interests should not be treated as dichotomous, either present or absent, nor should occupations whose activities embrace several different interests be classified as embracing only one. Similarly, information about aptitudes should not be treated dogmatically. When it is tentative, it should be identified as tentative.

5. Test materials on samples of students. The U.S. Department of Labor is the main source of occupational information in this country. We have occasionally consulted with officials from other countries that wanted to establish career information programs for their population, and we are invariably struck by the difficulties they face in the absence of a counterpart to the Department of Labor. But, despite our sense of good fortune in having the work of this organization at our disposal, we think its products could be improved for guidance by trying out materials with

samples of high school students and seeing the extent to which the students understood them and the extent to which the students could apply them to their own choice of careers. The materials are admirable in many respects, but how well are high school students able to apply them, lacking knowledge of themselves, lacking linkages for construing occupational information in terms of themselves, and lacking a strategy for choosing between options?

6. Improvement of computer systems. Finally, a word about computer systems. These are unique among the resources because they can be designed to contain within themselves many of the features of the curriculum that we recommend. They are not a substitute for a teacher or a counselor. But the nature of career decision-making, as we see it in light of the conceptual framework, happens to imply structures that are amenable to systematic programming.

We have seen little in these studies to make us believe that most computer systems take advantage of their potential. Like the other resources, the computer systems have been designed from the perspective of delivering career information, not from the perspective of providing career guidance. Their two main advantages over other resources have not been utilized: (1) their capability to help the learner see the relationships between the realm of occupation and the realm of self; and (2) their capability to organize and reorganize data so as to facilitate the actual process of decision-making. At best, most of the systems we have examined for these studies would be useful adjuncts to persons working for an employment service; they are quick, they allow occupations to be retrieved in accordance with learners' specifications; they may have up-to-date files on local salaries and openings.

But as guidance tools for high school students, most existing systems leave a lot to be desired, both technically and conceptually. From a technical point of view, they are often awkward to use. Students have difficulty referring to off-line codebooks; counselors must frequently operate the system and convey information to the students; terminals often run at slow transmission rates, while students grow restless waiting for a response; communication and hardware costs are such that few schools have more than one terminal--so access is limited. Clearly, all systems should be more "friendly." Directions and options should be given online so that students can work independently; hardware should be configured so that there are enough terminals to accommodate the entire student body, and the transmission rates should be as fast as students can reasonably use.

Conceptually, it is important to provide not just information but guidance. Most existing systems assume that students already know themselves, know how to link this knowledge to occupational information, and know how to use this combined knowledge in making rational career decisions. These processes must be explicitly evoked so that even when information is ambiguous or contradictory students will have guidelines for reaching decisions in the face of uncertainty. In fact, much of an ideal curriculum for career guidance could be programmed into a computer, just as whole courses have been successfully programmed for computer-assisted instruction.

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APPENDIXES

NIE 200C

FORM APPROVED
FEDAC NO. S175
APP. EXP. 06/81

What You've Learned About Occupations

Educational Testing Service
Princeton, New Jersey

Sponsoring Agencies:

National Institute of Education
National Occupational Information Coordinating Committee

This questionnaire is authorized by legislation (20 USC 1221e). While you are not required to respond, your cooperation is needed to make the results of the survey comprehensive, accurate and timely.

SECTION A

This section includes questions about you and your plans after you leave high school.

Q.1 Are you:
(Circle one number)

1 Male
2 Female

Q.2 What grade are you in now?
(Circle one number)

1 10th grade
2 11th grade
3 12th grade
4 Other (Please describe): _____
5 Not sure

Q.3 Do you have a physical handicap that limits the kinds of work you can do?
(Circle one number)

1 Yes
2 No

Q.4 Which of the following describes you best?
(Circle one number)

1 Hispanic
2 White, Not of Hispanic Origin
3 Black, Not of Hispanic Origin
4 American Indian or Alaskan Native
5 Asian or Pacific Islander

Q.5 Which one of the following best describes the high school program or curriculum you are now in?
(Circle one number)

1 General
2 Academic/College Preparatory
3 Vocational-Technical
4 Other (Please describe): _____

Q.6 What do you plan to do when you leave high school?
(Circle the numbers of all the answers that apply to you.)

1 Go to a vocational, technical, business, or trade school
2 Enter an apprenticeship or on-the-job training program
3 Go to a two-year college
4 Go to a four-year college
5 Get a job immediately
6 Enter the armed forces
7 Be a homemaker for my own family
8 I have not decided what to do when I leave school
9 Other (Please describe): _____

SECTION B

This section asks you about things you've done while at this school during this school year to learn about occupations or different kinds of jobs.

Q.7 Below (A-K) is a list of RESOURCES about occupations. How often have you used each during this school year?

RESOURCES	I HAVE USED THIS RESOURCE: (Circle one number on each line)			
	Never	One time	Two times	More than two times
A reading materials (books, magazines, pamphlets, and reports).	0	1	2	3
B guidance counselor or career education specialist	0	1	2	3
C film, filmstrip, tape, videotape	0	1	2	3
D computer system	0	1	2	3
E microfiche (such as VIEW).	0	1	2	3
F sorting cards (keysort, needlesort). . .	0	1	2	3
G school-arranged work experience	0	1	2	3
H "career day" or "career fair"	0	1	2	3
I school-arranged plant tour	0	1	2	3
J career planning course or unit in a course	0	1	2	3
K some other resource about occupations. .	0	1	2	3

Q.8a This question has two parts. First, in Column A, circle the numbers of those things you have done during this school year on your own, not because someone told you to.

Q.8b Then, in Column B, write the letters of the RESOURCES from Q.7 that led you to do these things.

Use letter X to show that none of the RESOURCES was the cause.

	COLUMN A: THINGS DONE (Circle as many numbers as apply)	COLUMN B: RESOURCES (Write in letters of RESOURCES which led to doing these things)
1	Changed your mind about your first-choice occupation	_____
2	Added some occupations to the group of occupations that you're thinking about going into	_____
3	Dropped some occupations from the group of occupations that you're thinking about going into	_____
4	Decided to keep thinking about the same group of occupations	_____
5	Read more information about an occupation . . .	_____
6	Wrote for more information about an occupation	_____
7	Watched someone working so you could learn more about an occupation	_____
8	Took part in some of the activities of an occupation	_____
9	Talked to someone about his/her occupation . . .	_____
10	Talked to your parents or relatives about an occupation	_____
11	Talked to your friends about an occupation . . .	_____

EXAMPLE

If you talked to your friends about an occupation because of a school-arranged work experience, your response would look like this:

(11) Talked to your friends about an occupation. . . . . G

SECTION C

In the space below write the name of one occupation (or type of job) that you now think you might go into after you finish school.

_____

(Name of one occupation)

Q.9 Look at the 50 occupations listed below and find the name of one occupation that is most like the one you wrote above. Circle the number of that occupation. If there is no occupation on the list that is like the one you wrote above, circle number 51 on the list.

OCCUPATIONS

(Circle only one number)

1 Accountant
2 Accounting Clerk (Bookkeeper)
3 Animal Caretaker
4 Architect
5 Automobile Salesworker
6 Beautician, Hairdresser, or Barber
7 Biologist (Biological Scientist)
8 Business Administrator (Executive)
9 Carpenter
10 Cashier
11 Commercial Artist
12 Computer Programmer
13 Cook or Chef
14 Dentist
15 Doctor, Medical
16 Drafter
17 Electrician
18 Engineer, Mathematician, or Physical Scientist
19 Firefighter
20 Flight Attendant
21 Forester
22 Health Technician (X-ray or Lab Technician, etc.)
23 Heavy Equipment Operator (Fork-lift Operator, etc.)
24 Hotel/Motel Manager
25 Interior Decorator
26 Lawyer
27 Librarian
28 Machinist
29 Mechanic (as for auto or truck)
30 Military Officer
31 Minister, Priest, or Rabbi
32 Newspaper Reporter
33 Nurse, Practical
34 Nurse, Registered
35 Performer (Actor, Dancer, Musician, Singer)
36 Pilot
37 Plumber
38 Police Officer
39 Psychologist, Social Scientist, or Economist
40 Radio/TV Announcer
41 Real Estate Agent
42 Repairer (as for appliances or business machines)
43 Salesworker (Retail Clerk)
44 Secretary
45 Social Worker
46 Store Manager
47 Teacher (in elementary or high school)
48 Truck Driver
49 Typist
50 Welder
51 Other (the occupation you wrote in above)

Q.10 Circle the number of the statement below which best describes the amount of education you need to enter the occupation that you circled on the list.
(Circle one number)

1 You need no education beyond high school.
2 You need 2 years beyond high school.
3 You need 4 years (bachelor's degree).
4 You need 5-6 years (master's degree).
5 You need 7 years or more (doctor's degree).
6 Other (Explain): _____
7 I don't know.

Q.11 Circle the numbers of all of the special requirements listed below which you would need to work in the occupation that you circled.
(Circle as many as apply)

1 You need a certificate or license.
2 You must pass an examination to qualify for a certificate or license.
3 You need union membership.
4 You must complete an apprenticeship, internship, or residency.
5 You need none of these.
6 Other (Explain): _____
7 I don't know.

Q.12 Below is a list of skills or abilities. Using a scale running from 1 (low) to 3 (high), circle the number in each line to show what level of each skill or ability is needed in the occupation that you circled. If you don't know, circle DK.

SKILLS OR ABILITIES	LEVEL OF SKILL NEEDED			
	Low	Medium	High	Don't know
oral communication, speaking skill	1	2	3	DK
written communication, writing skill	1	2	3	DK
mathematical ability	1	2	3	DK
mechanical ability	1	2	3	DK
finger/hand dexterity, good muscle control	1	2	3	DK
clerical speed and accuracy	1	2	3	DK

Q.13 Circle the number of the range that indicates the average amount of money per year earned by people in this occupation nationally.
(Circle one number)

1 $25,000 or more
2 $20,000-$24,999
3 $15,000-$19,999
4 $11,000-$14,999
5 $8,000-$10,999
6 $7,999 or less
7 I don't know.

Q.14 Circle the number of the range that indicates the average amount of money per year earned by people in this occupation in your state.
(Circle one number)

1 $25,000 or more
2 $20,000-$24,999
3 $15,000-$19,999
4 $11,000-$14,999
5 $8,000-$10,999
6 $7,999 or less
7 I don't know.

Q.15 Circle the number of the statement which best describes the type of help you would give to other people if you were in this occupation.
(Circle one number)

1 You would work with people directly to improve their health, welfare, or education.
2 You would make life better for the general public in a significant way.
3 You would provide a service that makes life more convenient or pleasant.
4 Helping others is not a major purpose of the work.
5 I don't know.

Q.16 Circle the number of the statement which best describes the degree of leadership you would have if you were in this occupation.
(Circle one number)

1 You would have great influence on policy-making decisions or on the lives of many others.
2 You would be responsible for a large number of employees or have considerable influence on others.
3 You would supervise a small group of workers or have moderate influence over others.
4 You would have little or no influence over other workers or clients.
5 I don't know.

Q.17 Circle the number of one statement which best describes the prestige of this occupation. (People in an occupation with high prestige get a lot of respect from others.)
(Circle one number)

1 It is in the top 25% of all occupations in prestige.
2 It is in the middle 50% of all occupations in prestige.
3 It is in the lowest 25% of all occupations in prestige.
4 I don't know.

Q.18 Circle the numbers of all of the special problems which apply to this occupation.
(Circle as many numbers as apply)

1 There is danger of injury.
2 The area you work in may be noisy.
3 The area you work in may be wet, cold, or hot.
4 You may have to work long or unusual hours.
5 You may be under pressure to meet deadlines.
6 You may have to deal with complaints.
7 None of these problems apply.
8 I don't know.

Q.19 Circle the number of one statement which best describes the amount of supervision usually received by workers in this occupation.
(Circle one number)

1 You work without supervision; plan your own work; are seldom evaluated by others.
2 You are supervised occasionally; plan your own work, following overall assignments.
3 You are supervised weekly or monthly; you work under supervisor who assigns and schedules work; you are free to decide how to carry out details.
4 You are supervised daily; your activities are directly supervised or follow a set routine, with little chance to act on your own.
5 I don't know.

Q.20 Circle the number of one statement that best describes the amount of security you would have after six years in this occupation.
(Circle one number)

1 You would be quite sure of keeping your job. (For example, you would have a permanent contract, tenure, or be protected by a union agreement.)
2 You would have no guarantee that you would keep your job, even though it would be considered permanent and year-round.
3 Your job would be seasonal, or for short-term contracts.
4 A machine might take over jobs in this occupation.
5 Your occupation emphasizes youth and strength, so you probably could not be employed in this occupation past the age of 30 or 35.
6 I don't know.

Q.21 Circle the number of the statement which best describes the national outlook (in U. S. Department of Labor projections) for workers to get jobs in this occupation.
(Circle one number)

1 Excellent: Very many openings; shortage of qualified people.
2 Good: About equal number of openings and people prepared to fill them.
3 Fair: Number of openings is limited except in certain parts of the country, OR number of openings is getting fewer due to machines replacing workers or due to state of the economy.
4 Poor: Number of openings, if any, is small; the occupation is very overcrowded, and few jobs are available.
5 I don't know.

Q.22 Circle the number of the statement which best describes the outlook for workers in your state to get jobs in this occupation.
(Circle one number)

1 Excellent: Very many openings; shortage of qualified people.
2 Good: About equal number of openings and people prepared to fill them.
3 Fair: Number of openings is limited except in certain parts of the state, OR number of openings is getting fewer due to machines replacing workers or due to state of the economy.
4 Poor: Number of openings, if any, is small; the occupation is very overcrowded, and few jobs are available.
5 I don't know.

SECTION D

This section includes questions about 50 occupations which you will consider 10 at a time.

Answer questions 23-25 for the following occupations:

1 Accountant
2 Accounting Clerk (Bookkeeper)
3 Animal Caretaker
4 Architect
5 Automobile Salesworker
6 Beautician, Hairdresser, or Barber
7 Biologist (Biological Scientist)
8 Business Administrator (Executive)
9 Carpenter
10 Cashier

Q.23 Circle the numbers below of <u>three</u> occupations for which two years of college or more are recommended or required.

1 2 3 4 5 6 7 8 9 10

Q.24 Circle the numbers below of <u>two</u> occupations for which the national average pay ranges from $3.00 to $5.50 per hour (or about $6,000 to $11,000 per year).

1 2 3 4 5 6 7 8 9 10

Q.25 Circle the number below of the <u>one</u> occupation in which people are most likely to work a fixed daytime schedule (a so-called "9-to-5, 40-hour week").

1 2 3 4 5 6 7 8 9 10

Answer questions 26-28 for the following occupations:

11 Commercial Artist
12 Computer Programmer
13 Cook or Chef
14 Dentist
15 Doctor, Medical
16 Drafter
17 Electrician
18 Engineer, Mathematician, or Physical Scientist
19 Firefighter
20 Flight Attendant

Q.26 Circle the numbers below of four occupations that can be entered with a high school diploma and some additional non-college training, such as on the job or at technical school.

11 12 13 14 15 16 17 18 19 20

Q.27 Circle the numbers below of two occupations with national average earnings of $25,000 or more per year. (Omit unusual cases. Think of what the average would be for all the people in the occupation.)

11 12 13 14 15 16 17 18 19 20

Q.28 Circle the numbers below of the three occupations in which the greatest number of people are employed nationwide.

11 12 13 14 15 16 17 18 19 20

Answer questions 29-31 for the following occupations:

21 Forester
22 Health Technician (X-ray or Lab Technician, etc.)
23 Heavy Equipment Operator (Forklift Operator, etc.)
24 Hotel/Motel Manager
25 Interior Decorator
26 Lawyer
27 Librarian
28 Machinist
29 Mechanic (as for auto or truck)
30 Military Officer

Q.29 Circle the numbers below of two occupations that require more than four years of college. (For example, four years of college, plus one to three years of graduate study.)

21 22 23 24 25 26 27 28 29 30

Q.30 Circle the numbers below of the two occupations most likely to be entered through an apprenticeship.

21 22 23 24 25 26 27 28 29 30

Q.31 Circle the numbers below of three occupations requiring a great amount of leadership ability (ability to direct and influence others).

21 22 23 24 25 26 27 28 29 30

Answer questions 32-34 for the following occupations:

31 Minister, Priest, or Rabbi
32 Newspaper Reporter
33 Nurse, Practical
34 Nurse, Registered
35 Performer (Actor, Dancer, Musician, Singer)
36 Pilot
37 Plumber
38 Police Officer
39 Psychologist, Social Scientist, or Economist
40 Radio/TV Announcer

Q.32 Circle the numbers below of the <u>three</u> occupations in which the smallest number of people are employed nationwide.

31 32 33 34 35 36 37 38 39 40

Q.33 Circle the numbers below of the <u>two</u> occupations which require passing tests of physical fitness.

31 32 33 34 35 36 37 38 39 40

Q.34 Circle the numbers below of two occupations which involve keen competition for beginning jobs.

31 32 33 34 35 36 37 38 39 40

Answer questions 35-37 for the following occupations:

41 Real Estate Agent
42 Repairer (as for appliances or business machines)
43 Salesworker (Retail Clerk)
44 Secretary
45 Social Worker
46 Store Manager
47 Teacher (in elementary or high school)
48 Truck Driver
49 Typist
50 Welder

Q.35 Circle the numbers below of <u>three</u> occupations for which a license or certificate is required to enter the occupation.

41 42 43 44 45 46 47 48 49 50

Q.36 Circle the number below of the <u>one</u> occupation which is least likely to involve making any independent decisions.

41 42 43 44 45 46 47 48 49 50

Q.37 Circle the numbers below of <u>two</u> occupations that require at least four years of college.

41 42 43 44 45 46 47 48 49 50

SECTION E

This section is about the meanings of the words printed in capital letters. Circle the number for the choice that best fits the capitalized word or phrase.

Q.38 CO-WORKER:

1 Farm work
2 A person who works in a cooperative
3 A fellow worker
4 A person who works on cobalt

Q.39 GRADUATE EDUCATION:

1 Schooling after completion of a four-year college
2 Getting a high school diploma
3 Taking courses at a four-year college
4 Unnecessary learning

Q.40 WORK ENVIRONMENT:

1 An anti-pollution job
2 The conditions at a work place
3 A type of occupation where everyone works all of the time
4 A group of factories built on one site

Q.41 ATTIRE:

1 clothing
2 confidence
3 business
4 education

Q.42 ZEAL:

1 compassion
2 reputation
3 enthusiasm
4 illusion

Q.43 ENTRY-LEVEL REQUIREMENTS:

1 Minimum number of entrances to a building as required by fire laws
2 Minimum salary a person demands to take a job
3 Minimum training needed to start a job
4 Minimum number of people to be hired by a company

Q.44 JOB SECURITY:

1 Freedom from fear of losing your job
2 A deposit given to an employer to hold a job for you
3 An occupation working as a guard at a factory
4 A stock or bond issued by a personnel firm

Q.45 SUPERVISOR:

1 A person whose work is directed by others
2 A person who directs the work of others
3 A person who gets along well with others
4 A person who works all alone

Q.46 ARTISAN:

1 benefactor
2 ambassador
3 executive
4 craftsman

Q.47 GRATIFY:

1 astound
2 please
3 defraud
4 teach

Q.48 ACADEMIC PREREQUISITE:

1 A special favor that a teacher does for you
2 A course that you would rather be taking
3 A course that is required before another course can be taken
4 A job giving out prescription medicines at a college

Q.49 JOB TENURE:

1 makes it easy to get a job
2 makes it hard to get a job
3 makes it easy to get fired from a job
4 makes it hard to get fired from a job

Q.50 CRUCIAL:

1 interesting
2 important
3 difficult
4 dangerous

Q.51 IMPEDIMENT:

1 hindrance
2 precaution
3 necessity
4 cluster

Q.52-Q.58

People who go into different kinds of work sometimes have different skills, aptitudes, interests, or values. Read each of the following statements. If the statement refers to a SKILL, circle the letter "S;" if it refers to an APTITUDE, circle "A:" and so on for INTERESTS ("I") and VALUES ("V").

Q.52 "The person who holds this job must type at a rate of at least 40 words per minute."

(Circle one) S A I V

Q.53 "It is important to him to work in a field where he can help others."

(Circle one) S A I V

Q.54 "She can speak two foreign languages."

(Circle one) S A I V

Q.55 "He really enjoys talking people into buying things."

(Circle one) S A I V

Q.56 "She is very quick at learning mathematics."

(Circle one) S A I V

Q.57 "He wants a job where he can make a lot of money."

(Circle one) S A I V

Q.58 "She would rather spend her spare time repairing her car than baking a cake."

(Circle one) S A I V

Q.59-Q.62

Read the following description of earnings in an occupation. Notice the letter before each line.

A Starting salaries are about $9,000-$11,000 a year for college graduates, but
B often over $12,000 for those with a graduate degree or related experience.
C Median annual salaries vary from $17,000 to $23,000 for those in government
D and education, and $20,000-$26,000 in industry (higher in California).
E Experienced people in private industry sometimes reach $50,000 a year.

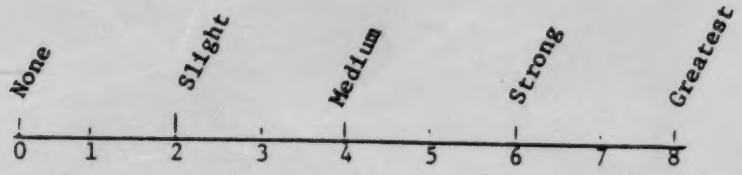
Below are four terms used to describe salaries. Refer to the description above (lines A through E). Circle as many letters as apply to show which line or lines tell about each one. If you don't know which line or lines apply, circle DK.

		(Circle as many as apply)					
Q.59	BEGINNING SALARIES:	A	B	C	D	E	DK
Q.60	AVERAGE SALARIES:	A	B	C	D	E	DK
Q.61	TOP SALARIES:	A	B	C	D	E	DK
Q.62	SALARY RANGE:	A	B	C	D	E	DK

SECTION F

Below are four satisfactions or values that some people might consider important in choosing an occupation. First, read the definition of each. Then write in a number from 0 to 8 (see the Scale below) to show how important it is to you. Try to give each value a different rating.

SCALE OF IMPORTANCE TO YOU



DEFINITIONS

IMPORTANCE TO YOU (Write in number 0-8)

PRESTIGE: Prestige means that people respect you, look up to you, listen to your opinions, or ask for your help in community affairs. Rightly or wrongly, people respect some occupations more than others.
How important is it to you to enter an occupation with PRESTIGE? . . . . . ____

INDEPENDENCE: Some occupations give you more freedom than others to make your own decisions, to work without supervision or direction from others. Do you want to take responsibility for decisions?
How important is it to you to have INDEPENDENCE in your work? . . . . . ____

HELPING OTHERS: Most people are willing to help others, both at work and away from work. But the question here is, To what extent do you want to work directly helping people improve their health, education, or welfare?
How important is it for a main part of your occupation to be HELPING OTHERS? ____

SECURITY: In the most SECURE occupations, you are not likely to be fired or laid off. You can count on a regular paycheck. Your occupation is not likely to be wiped out by hard times, new machines, or other changes.
How important is it to you to choose an occupation with high SECURITY? . . . . ____

Please check:

Did you give your highest rating to the value that is most important to you? ☐

Did you give your lowest rating to the value that is least important to you? ☐

Q.63 Job A and Job B are very much alike in all ways except the ones listed below. Which job would you prefer?

Job A would give:	Job B would give:
* a lot of prestige--people would look up to you	* not much prestige--people would not look up to you
* not many chances to make your own decisions	* many chances to make your own decisions
* many chances to help people	* not many chances to help people
* unsteady work, chance of losing job or income	* steady work, no chance of losing job or income

(Circle one number)
1 Job A seems much better than Job B
2 Job A seems slightly better than Job B
3 Job B seems much better than Job A
4 Job B seems slightly better than Job A
5 Job A and Job B seem equal

Q.64 Job C and Job D are very much alike in all ways except the ones listed below. Which job would you prefer?

Job C would give:	Job D would give:
* a lot of prestige--people would look up to you	* not much prestige--people would not look up to you
* many chances to make your own decisions	* not many chances to make your own decisions
* not many chances to help people	* many chances to help people
* unsteady work, chance of losing job or income	* steady work, no chance of losing job or income

(Circle one number)
1 Job C seems much better than Job D
2 Job C seems slightly better than Job D
3 Job D seems much better than Job C
4 Job D seems slightly better than Job C
5 Job C and Job D seem equal

Q.65 Job E and Job F are very much alike in all ways except the ones listed below. Which job would you prefer?

Job E would give:	Job F would give:
* a lot of prestige--people would look up to you	* not much prestige--people would not look up to you
* not many chances to make your own decisions	* many chances to make your own decisions
* not many chances to help people	* many chances to help people
* steady work, no chance of losing job or income	* unsteady work, chance of losing job or income

(Circle one number)

1 Job E seems much better than Job F
2 Job E seems slightly better than Job F
3 Job F seems much better than Job E
4 Job F seems slightly better than Job E
5 Job E and Job F seem equal

We would like to interview a small number of students about their career choice. The interview will take about 30 minutes and will be scheduled later this week, during school hours, at a time that is convenient for you.

If you agree to be interviewed, complete the form below. Otherwise, leave it blank.

- -

INTERVIEW FORM

[ ] Yes, I agree to be interviewed.

Print your name: _____
First name Last name

Your homeroom: _____

A telephone number where you can be reached after school hours: _____

Scoring Key

Test Item No.	Correct response(s)	Requirements for scoring as correct
10-22	Depend on S's choice of occ.	Correct responses only
23	1, 4, 7, 8	3 or more correct
24	2, 3, 10	2 or more correct
25	2	Correct response
26	11, 12, 13, 16, 17, 19, 20	4 or more correct
27	14, 15, 18	2 or more correct
28	13, 17, 18	3 correct
29	26, 27	2 correct
30	28, 29	2 correct
31	24, 26, 30	3 correct
32	32, 36, 40	3 correct
33	36, 38	2 correct
34	32, 35, 40	2 or more correct
35	41, 45, 47, 48	3 or more correct
36	49	Correct response
37	45, 47	2 correct
38	3	Correct response
39	1	Correct response
40	2	Correct response
41	1	Correct response
42	3	Correct response
43	3	Correct response
44	1	Correct response
45	2	Correct response
46	4	Correct response
47	2	Correct response
48	3	Correct response
49	4	Correct response
50	2	Correct response
51	1	Correct response
52	S (1)	Correct response
53	V (4)	Correct response
54	S (1)	Correct response
55	I (3)	Correct response
56	A (2)	Correct response
57	V (4)	Correct response
58	I (3)	Correct response
59	A, B	A, B, or A & B
60	C, D	C, D, or C & D
61	E	Correct response only
62	A, B, E	A & E; or B & E; or A, B, & E
63	Depend on value wts.	See Note B
64	Depend on value wts.	See Note B
65	Depend on value wts.	See Note B

Note A: An item is scored as wrong if the student makes an incorrect reponse, even though he also makes the correct response(s). Items left blank are scored as wrong.

If all items on a scale are left blank, there is no score for that student on that scale.

Note B: Scoring for items 63-65:

Importance assigned to Prestige = P
Importance assigned to Independence = I
Importance assigned to Helping Others = H
Importance assigned to Security = S

Question 63:
P + H = J
I + S = K

Question 64:
P + I = J
H + S = K

Question 65
P + S = J
I + H = K

All three:
J - K = M

Scoring
If M $\geq$ 2, correct answer = 1 or 2
If M $\leq$ -2, correct answer = 3 or 4
If M = 1, 0, or -1, correct answer = 5

APPENDIX B

Career Information Systems Interview Schedule

1. In answering your questionnaire, you showed that you used (refer to Q. 7, page 2).
   Which did you use most?

   Why did you prefer that resource to (insert other resources checked and name them one by one)?

2. Why did you use (primary resource under Q. 7)?

   To size up an occupation?
   Find out about a particular occupation?
   Class assignment?
   Counselor or teacher suggested it?

3. What kind of information were you looking for when you used (primary resource)?

   Did you find it?

4. Do you think the information was honest and accurate?

5. Did you find (the preferred resource) easy to use?

   Did you have any problems with it? (Prompt--reading level, couldn't get access to it, couldn't operate equipment, not enough terminals, etc.)

6. What about the other resources you mentioned, what were the advantages of (insert other resources used, one by one)?

   What about the disadvantages (use same list as above)?

7. On your questionnaire you said you were thinking about _____ (top of page 4) as an occupation. Will you tell me why?

8. When did you begin thinking about it? (Here we're looking for an experience, not a specific date, possible answers might be "When I saw my uncle doing it, when I was a little girl and read a book about it," as well as more recent experiences such as, "suggested by computer or job shadowing experience.")

9. And where did you learn about it? (This may be redundant after question 8. Probe for other sources of information--parents, friends, workers, teachers, etc. Another thing we want to know is if the respondent sought to learn about the occupation in a formal way if he were exposed to it in an informal way first.)

10. Of all the places you got information about this job, which was the most helpful?

11. What are some of the things you like about (this occupation)?

12. Can you tell me some things you don't like about it--things that might make you change your mind about working at it?

13. Are there things you'd like to know about (this occupation) but haven't been able to find out? What are they?

14. Are there other kinds of jobs you've considered? What are they?

15. Where did you learn about them? (Probe for formal vs. informal sources of information. Also, active or passive pursuit of additional information and satisfaction with it.)

16. Do you wish you knew more about (jobs in question 15)?
What would you like to know? (If interviewer has any suggestions, give them.)

17. Do you wish the school had other resources for you to use in finding out about jobs? What are they?

18. Are there other experiences you'd like to have before you decide on a job (or career)? What are they?

19. By the way, did you have any trouble answering the questionnaire?

What made it difficult? (Probe for reading level, student's lack of information about jobs, unclear or too complicated directions, boredom with task. This may give us some idea of the validity of the questionnaire for a variety of student populations.)

Career Information Systems

School Observation Check List

In order to write up a case study description of the school, the following activities are suggested.

1. During your visit try to talk to as many people who are involved in career counseling as possible. You will have only one "contact" but are there other counselors or teachers involved? Keep your ears open. See if you can join a group of counselors (or whatever) for lunch and talk about the subject. Take your contact person out to dinner if you want to.

   What do they feel about the resources available?

   What changes in the system would they like to make?

   What groups of students do they have most difficulty serving?
   Why?

2. Ask counselor or contact for the school description they send with students' records to colleges.

3. Look around. Are the materials listed on last year's school questionnaire readily available?
   Where?

   Do students seem to be using the resources available?
   Are the materials attractively arranged?
   Is there space to use them?
   Check out what's on the walls and in bookshelves of counseling office, library, classrooms.

4. See if there's a bulletin board or file for part-time jobs for students.
   How many students have part-time jobs?
   Is the demand large or small?

5. Ask about local and regional job markets.

6. Do graduates have to move to get some kinds of jobs?
   What kinds?

7. Are there serious weak spots in the local or regional economy?
   Where?

   Growth industries?
   What?

8. In what kinds of occupations are the students' parents employed? (Are they factory workers, college professors, technicians, shopkeepers, clerical workers, etc.?)

9. What proportion of the students come from high S.E.S. families, from low S.E.S. families?

10. Do many students consider the military?
    Are there lots of military sponsored materials in the counseling center?

All of these questions and similar ones you will think up yourself will be helpful to you in writing up a tightly packed one or two page description of the school and its student body and the context (economic and social environment) in which it and they exist.

Please write up the school description at the end of the week and before moving on to another school. You may want to amend or sharpen your description after you have visited another school or after all visits are completed and will have an opportunity to do so. However, we want your immediate impressions of each school. Contrasts can come later.

APPENDIX C

NONPOVERTY/COMPUTER

Individual Interviews

11th grade white male/psychologist

Subject used the computer quite a bit, specifically to get information about the jobs of Music Director, Psychologist, and Social Worker. While he felt he had been given a great deal of information in each case, he feels the computer "doesn't tell you how hard it's going to be, what it's really going to be like." He said that much of what he got from the computer was stuff he already knew. He preferred experiences like the one he had visiting his friend's mother's kindergarten class, and talking with another friend's father who is a psychologist, to get a "more personal view."

11th grade white female/teacher

The subject said the computer was the most "helpful" resource she had used. She used it to get information about all three of her career possibilities and felt that the information she received helped her decide to pursue teaching first. She got information about the local job market in all three areas and learned where to write for more information. Then she used the system to obtain college information. She felt the computer system was more helpful in selecting a college than in selecting a career.

10th grade white female/commercial artist

This subject used the computer to get information about the job market in her chosen field, about the courses she should be taking in high school, and about colleges.

11th grade white male/sporting goods store manager

Subject used the computer to get information about colleges and found it very helpful. He has written to three of the colleges for further information.

12th grade white male/work in father's industrial supply business

Subject has been working in his father's business for two years (on coop assignments). He said he used the computer once just to see what other possibilities there were, but he has always wanted to do just what he's doing and never really considered anything else.

12th grade white female/hairdresser

Subject is in a vocational/technical program and will be a qualified hairdresser when she graduates from high school this year. Before enrolling in the vocational program she took "some aptitude tests" which she did not find helpful and used the computer to get information about occupations, although she said by that time she had made up her mind that she wanted to be a hairdresser.

12th grade black female/criminal justice

Subject has participated in internships, pursued work experience, and done a great deal of research on criminal justice. She used the computer but said it provided her with nothing that she didn't already know from her reading or other sources.

10th grade black male/computer electronics

Subject is planning a career in computer electronics or engineering. He used the computer once, to get some idea about colleges that offer Computer Electronics.

Summary of Interviews

This school's occupational information system was categorized as computer-based. Nine of the 16 students we interviewed had used the computer to obtain information on colleges, careers, or local job opportunities. For the most part these students were pleased with the information they received from the computer but none had used it to the exclusion of other career resources.

The students we interviewed mentioned a surprising variety of resources: career days, college events, visits to vocational schools, library reading materials (especially magazines), films and filmstrips, and career units.

This school apparently provides numerous opportunities for career exploration and encourages students to use the computer in conjunction with many other resources.

Nonpoverty/Computer School

This is a suburban school located on the outskirts of a large midwestern city. The enrollment in grades 10-12 is slightly over 1,000; 69 percent of the students are White, 29 percent Black, and 2 percent Hispanic. The counselor indicated that approximately 50 percent of the students were academic, 22 percent were vocational-technical, and 28 percent were general; on the questionnaire, however, students did not appear to classify themselves by curriculum in ways that were consistent with their post-high school plans. Discussion with the counselor indicated that curriculum labels were rather loosely applied. The school emphasizes the need for academic requirements among college-bound students in the student handbook and through counseling, but there is no formal academic program as such. In fact, many students are accepted in colleges without the traditional requirements having been fulfilled. The classification "vocational-technical" refers to 11th and 12th graders who are enrolled in career programs at one of the four campuses of the Joint Vocational School District. Programs in agriculture, automotive work, business office education, communications, construction, manufacturing, marketing, technical services, and repair and maintenance are offered at the vocational school campuses. Although vocational students take all of their courses at one of those four campuses, they are still considered students of the main high school; they participate in its extracurricular activities and receive its diplomas.

The research team visited the largest and most complete of the four schools in the Joint Vocational School District system. It is the closest to the main high school and 98 percent of the vocational students attend it. The facilities we saw were relatively new and in good condition. Both students and counselors reported that there is some stigma attached to "vocational" education, even though they feel their vocational school is a good one. When the tax levy to continue support for the vocational system was on the ballot, students at this school manned a telephone bank to call voters out to support it. Last year, 1,838 students completed the requirements of their programs in the Joint Vocational School District system, and 87.1 percent of those students either entered the labor force or went on for further training.

At the main high school there is a three day "vocational fair" each fall, which students and teachers from the vocational school attend to talk to students and demonstrate the kinds of work they are doing. Students from the main high school can also go to the vocational campuses for a day to see the facilities and attend classes in the programs they are considering.

The physical facilities at the main high school are remarkably clean and well kept. The students tended to be noisy and active but were generally cooperative. The counseling center is located near the main office, and the door into the reception area opens off one of the main corridors. Students seemed to come and go easily through the counseling area, although it was somewhat crowded and filled with shelves of materials: college catalogs, military brochures, magazines with career

information, pamphlets about the vocational schools, and information on course selections for the coming year. The counselors' offices and the nurse's office all open off this central area. The counselors were quite friendly and open with us.

The terminal for the state's computer-based Career Information System is located in a small room just outside one counselor's office. The counselor indicated that many students make use of the system. They allow only one student at a time to use it, since they discovered that students sometimes came in groups and did more fooling around than working. The computer is used as an adjunct, for information only, not as a substitute for direct contact with counselors. According to the log, 80 students used the computer last month, an average of two times per student. The college file is used most, followed by the occupational and employment files.

The counselors we spoke to were uniformly pessimistic about their ability to continue to provide the level of service they have been providing students in view of the recent cutback of school aid funds at the state level. At the very least, the student-to-counselor ratio will be increased. They were also pessimistic about the economic situation in the area in general and, by implication, the labor market. Two major auto manufacturers in the area have recently enacted major lay-offs at the professional level, with others to follow. Other major employers in the area include a large consumer products corporation, two professional sports organizations, and a number of smaller machine companies; the local university also employs many in its medical, law, and general academic complexes. Among college graduates, engineers are the most employable in the immediate vicinity. Usually between 10 and 20 percent of the graduates of this high school actually do graduate from college; 10 percent of the vocational graduates also do some sort of postsecondary school training--at a two-year college or technical school.

Counselors meet with students at the high school at least twice a year, in many cases many more times than that. Students are assigned alphabetically and, in addition, counselors have coordinating roles of one sort or another. One counselor is a part-time counselor and part-time vocational coordinator; in the latter role, he coordinates the program at the main high school with the program at one of the vocational campuses, visiting the latter three or four times a week. His regular counseling assignment includes 160 students, among them some 70+ vocational students (each counselor is responsible for the vocational students in his/her alphabetical domain). When he meets with students they talk about academic progress and career or college choices.

The library is large, airy and well equipped, and contains a fine collection of books. There is a full-time librarian with his own glassed-in office and a staff of aides and students. Students <u>use</u> the library (the library was full of students every time we passed) for

class-related projects and for study. There is a corner that houses publications keyed to the computer (the Dictionary of Occupational Titles, for example, and several other books that expand and amplify some of the computer information). There are also several occupational books series which are cross-referenced in the card catalog under at least three headings. Under "TRUCK DRIVER" are four listings, each of which is also listed in at least two other places. The librarian seems genuinely helpful and anxious to connect students with materials they need. The library has a sizable collection of magazines in addition to the hardback materials.

Individual Interviews

12th grade white female/drafter

Subject went on the computer and was "thrilled" with the results. She said the computer told her everything she wanted to know. She liked using the computer because she could get all the information she wanted at one time in one place--"it is much faster than looking things up in the library." The subject was interested in salaries, job openings, and working hours in the drafting field and the computer gave her specific information. The computer also suggested surveying and landscaping as fields that might interest her and she has since looked into both.

This subject had used the GIS computer both at her high school and at a career center that is used by five area high schools. She preferred using the computer at the center because "they let you do it on your own" whereas at her school they "type it in for you." Also the center has several terminals and the subject thinks her school, which has only one, should get a second.

11th grade Hispanic male/auto body repairman

Subject was very impressed with his "readout" from the computer which his instructor had brought to the classroom and which the students operated. He said it was easy to get the information. "It gave all the stuff you'd be doing--how much you make and what you'd be doing. Books don't tell what you actually do."

10th grade white male/computer programmer(?)

Subject had used the GIS computer twice with the guidance counselor and said that it is "easier to use and has more information than the library." By using the computer, he had narrowed the field of occupations he was considering down from 15 to 20 to 5 or 6.

10th grade Hispanic female/cook

Last year the subject wanted to be an actress because she "liked to watch movies" and thought "acting would be fun." She decided not to try to become an actress after using the GIS computer this year. The information she got from the computer convinced her that acting was "too hard to get into."

11th grade Hispanic male/truck driver

At the suggestion of the Industrial Cooperative Training instructor, the subject used the GIS computer and said it was the best source of information on truck driving. The computer provided him with information on "going independent" versus working for a company; the hours (weekends and holidays) truckers work; and salaries and job opportunities around the country. He also learned that "the truckers union is supposed to

be a good one." The computer listed truck driving jobs that the subject was unfamiliar with--lunch truck driver and log truck driver--and he is now looking into driving logging trucks because he likes being out in the woods.

12th grade white male/accountant

Subject used the GIS computer to get information about careers in accounting. From the computer he learned what high school classes he should take, that he needed a four-year college degree, where accounting jobs are available and what local salaries for accountants are like. The subject said that the computer's information was far more comprehensive and accessible than the library's materials.

12th grade Hispanic female/makeup artist

The subject wants to be a makeup artist--not simply a cosmetologist--and she has experienced a great deal of difficulty in learning about the occupation. She went on the computer but said "there's no information on schools of this sort." She said that the computer "mentioned" two schools in New York City that had courses in theatrical makeup but she had no thought of going to New York.

11th grade Hispanic male/welder

The subject learned about employment opportunities, working conditions, and salaries for welders through his Industrial Cooperative Training program classes. Thus, when he went on the GIS computer he did not acquire much new information.

Summary of Interviews

The occupational information system at this school was categorized as computer-based. Of the seventeen students we interviewed, thirteen had used the GIS career guidance system. Ten of those students were pleased with what they got out of it. Most mentioned getting specific, useful information. (See individual interviews.)

Not all liked it, however. Besides the disappointed would-be make-up artist and the potential welder, there was a third student who said her teacher had fed into the computer her highest score on the Kuder-Vocational Preference Record, which was "Artistic." The student said this was useless because she was interested in math, not art.

Three of the interviewed students were enrolled in the school's Industrial Cooperative Training Program--an 11th grade white male who plans to be a truck driver, an 11th grade female who wants to be a drafter, and an 11th grade male who is learning welding. All three of these students seemed exceptionally motivated and spoke enthusiastically of their experiences with the ICT program. They were acquiring skills, earning money, and, through films, reading materials, the computer, and their instructor, were obtaining specific occupational information.

Two of the interviewed students who had used the computer at school had also used it at the city's Career Enrichment Center which serves five area high schools. Both said that they preferred using the computer at the Center because they were allowed "to do it on their own" without the assistance of a counselor. One of these students plans to take a course at the Center next year. Another student we interviewed has been taking a 2-1/2 hour a day class in digital electronics at the Center this year.

The students in the ICT program spoke of receiving guidance from their instructor but among the other fourteen students we interviewed only four mentioned any interaction with their guidance counselors. The labor market in this city is very tight, the majority of students do not want to leave the area, and for many of this high school's students English is a second language. These students are in need of active career guidance and counseling but the school's present system is fairly passive.

Poverty/Computer School

This is a large suburban school located in an old, established, low-income residential area. Approximately 1,500 students are presently enrolled in the school, distributed across curricula as follows: 35 percent general; 25 percent academic or college preparatory; and 40 percent vocational/technical. Seventy percent of the students are Hispanic, 23.5 percent are White, 5 percent are American Indian, 1 percent are Black, and .5 percent are Asian.

Approximately 53 percent of the class of 1979 obtained full-time jobs after graduation; 25 percent enrolled in regular two-year or four-year colleges; 10 percent enrolled in other postsecondary education programs; 2 percent found apprenticeships; 5 percent went into the military; and 5 percent were unemployed but seeking work.

In describing the school's population, one teacher we interviewed said that the students came mainly from low SES families, many of which "have been on welfare for three generations." Most of the available jobs are unskilled or semi-skilled and the students' career expectations are low.

The school has a very large and extremely attractive library. Career resources found there included: two nine-foot shelves with books on careers in various fields; a four-drawer file cabinet containing magazine articles and brochures on occupations; SRA Briefs; several copies of the Occupational Outlook Handbook; and a display rack of U.S. Army literature.

The school has a GIS computer terminal that has been in the school for two years. Unfortunately, during the four days we were in the school no counselor or other staff member "was available" or "had time" to discuss the GIS computer or its use in the school. The terminal is located in a room next to the reception area in the school's administrative offices and is open to view as one passes in and out and through the office area where the principal, counselors, and support staff are located. We did not see any students or counselors using the computer at any time during the site visit. We did manage to obtain some information about the GIS from a visiting counselor from the city's Career Enrichment Center. She visits five high schools each week and is available to the students to tell them about the C.E.C. and the opportunities provided there. She explained that there are three telephone lines available to high schools for the computer and the use of the GIS in this school is restricted to one afternoon a week. The terminals were purchased with Title IV funds and the school district is responsible for the operating costs. The counselor said that the GIS is used "inductively and deductively." Inductively "to search for information about general career interests" and deductively "to get more information about a specific career."

This school has four work-study programs: Industrial Cooperative Training (ICT), a two-year, on-the-job training program for juniors and seniors in special interest areas; Distributive Education Clubs of America (DECA), an on-the-job training program for seniors in sales and merchandising

Office Education (OE), an on-the-job training program for seniors in office occupations; and Distributive Education (DE), a work-study program for less motivated seniors which provides work experience in general job areas.

We interviewed two students from the Industrial Cooperative Training program and were so impressed by them that we sought out the ICT Instructor. This teacher has been coordinating the program since its inception nine years ago. The program is a two-year training course formulated by teacher, employer, and student cooperatively. The school supplies the classroom facilities and the teacher-coordinator while employers furnish practical training through part-time employment. The student must take required academic courses as well as maintain his commitment to the ICT program and his employer from whom he receives a minimum wage of $3.35 an hour.

Students apply for admission to the ICT program and are interviewed by the instructor-coordinator. He said that students must have an "extreme desire" to be enrolled. The instructor attempts to find jobs for the students, placing them in areas such as electronics, food services, plumbing, carpentry, machine trades, and fabrication. During the 1980-81 school year approximately 45 employers were involved in the ICT program. Twenty-five percent of the student's grade comes from the employer. Four times during the school year the employer completes an Employer Rating Sheet which is described as an "Employer's Evaluation of Student's On-the-Job Work." The "Personal Traits" category contains 18 items ranging from "personal appearance" to attitudes, including "cooperation," "job knowledge," and "initiative (keeping busy)." The "Abilities" category contains 12 items ranging from "follow directions" to "complete tasks," including "handle emergencies" and "care of equipment." Students are rated on a five-point scale.

The instructor visits the work sites at least once a month and maintains close contact with the employers. The instructor also serves as the job developer, and all work sites have been solicited through his efforts. Employers benefit through the Targeted Jobs Tax Credit, with each receiving a 50 percent tax credit up to $6,000 paid in wages to the students. The instructor said that the private sector is committed to the program because they benefit by better trained, more qualified graduates and future employees. He also said that many of the students who have passed through the program are still employed by the same employer "years later."

This school district is one of four in the U.S. which have been awarded grants for the 1981-82 school year by a major foundation to implement a concentrated career guidance program in a selected high school and its two "feeder" schools. This high school's Career Guidance Facilitator is coordinating the program and spoke enthusiastically of its potential.

Individual Interviews

10th grade white female/interior decorator

Subject was thinking about being an interior decorator or a flight attendant. She had only been in the career center once and had not used many of its resources. On career day, she heard a presentation by a commercial artist who does some interior decorating. She was interested in interior design because she "loves art but can't draw." She looked up interior decorating in the Dictionary of Occupational Titles and the Occupational Outlook Handbook as part of a class assignment and plans to get more information on the field in the future.

11th grade white female/flight attendant

Subject had attended four career days in the past year and a half and said they were fun and she had learned a lot from them. She had considered secretarial work, cosmetology, and data processing as careers before deciding to become a flight attendant. She attended career day presentations to learn what people did in various occupations and to find out what kind of training was needed to enter the occupations. After listening to the speakers, she visited the career center and used reading materials to obtain additional information. She found out "everything I wanted to know."

11th grade black male/computer programmer

Subject was considering a career in business (either banking or finance) but decided against it after attending a career day. He learned that he would need at least a B.A. and probably an M.A. if he wanted to "get anywhere in business" and he was not interested in going to school for that long.

11th grade black female/accountant

Subject attended a career day discussion on choosing a career and started thinking about accounting as an occupation. She then used the career center's reading materials to obtain information on the field. She said she would like to get a better idea of "exactly what accountants do" and thought the best way to find out would be to talk to accountants.

11th grade white female/physical therapist

Subject attended a career day presentation on occupations in the medical field and started looking into physical therapy. She went to a physical therapist when she was in 7th grade after she broke her leg and she said, "If it hadn't been for him, I wouldn't have the use of my leg now." She now wants to be a physical therapist so that she can help people.

Summary of Interviews

This school's career information system is experienced-based and all but two of the 12 students interviewed had attended one or more career days. However, none of the interviewees mentioned job site tours or job shadowing and only one had had career-related work experience.

Most of the students commented favorably on career days. Seven of the 12 students had attended career day presentations on the occupations they designated as their career choices. (See individual interviews.)

Several students commented that they knew that detailed occupational information was available in the Career Center although they had not yet sought it out. The Career Center seemed to have "a little of everything" in the way of career information. Although seven of the interviewed students stated that they had used the Career Center's materials to research occupations, their knowledge of such specifics as educational requirements and salaries was sketchy. These students seemed to be primarily interested in what people in a given occupation "actually did" and they were satisfied with what they learned from the career day speakers and the general information they obtained at the Career Center.

The functions and operation of the Career Center appeared to be completely separate from those of the school's guidance department. This may account for the fact that a number of students we interviewed were very sure of what they wanted to be but very vague about how to prepare for it. The student who wants to be a physical therapist said she had used the Career Center's reading materials to obtain information on job opportunities, salaries, and job security for physical therapists and talked to the career assistant about the field. She plans to attend the state university but does not know whether it has a program in physical therapy. Another student, who wants to be an electrical engineer (because he is interested in computer maintenance and repair), told the interviewer that if he couldn't get into an Electrical Engineering program in college he didn't know what he would do because it was the only career he was interested in. This student also told the interviewer that he does not like science or math.

Two of the students we interviewed not only had very definite career goals but also had realistic plans for attaining them. One of the students, who wants to be an Astronomer's Assistant, has his college curriculum planned and has already checked graduate programs in Astronomy. He had obtained information on this career on his own outside of school. The other student, who wants to be a pilot, is aware of the stiff competition he will face in attempting to achieve this career goal. He used the school's reading materials and the computer to obtain information on the occupation and talked to his guidance counselor. He also talked to military recruiters in the process of exploring various ways of entering his chosen profession.

The extent to which this school's guidance system meets the needs of its students seems to be a function of two factors: the motivation of the individual student and the availability of information on a given occupation. Students have numerous opportunities to explore careers and the Career Center provides a good variety of resource material. Students wishing to combine career information with academic planning must, however, use some initiative.

Nonpoverty/Experience School

This high school is situated in a residential, racially balanced neighborhood about ten minutes from the downtown area of a large city in the Northwest. The school itself is an old, well-maintained, three story brick structure, surrounded by flower beds and trees. The school population is 33 percent Asian, 33 percent Black, and 33 percent White. Of the 840 students, only nine or ten are enrolled in vocational-technical programs. The remainder are enrolled in either the general or the academic curriculum. Approximately 55 percent of the school's graduates go on to two- or four-year colleges.

Our contact was the school's Career Assistant. She manages the Career Center. She informed us that all of the city's high schools have career centers, but that the style of implementation of the Career program varies from school to school, according to the specific needs of each school population. The Career Center's primary function is career education for all students, but is designed to be especially responsive to the needs of noncollege-bound students (two full-time counselors handle the four-year college-bound students). The Center is located in a large room in a separate part of the school building. The hallway leading to the Center is decorated with colorful murals, painted on the walls by students, depicting scenes of successful racial integration and ways to economic and personal fulfillment. The Center itself contains a large selection of career information materials: five copies of the Occupational Outlook Handbook, two copies of the Dictionary of Occupational Titles, The Pathescope Educational Films Series, Careers, a game by Parker Brothers, the U.S. Army Career and Education Guide (an audiovisual package) Who's Hiring Who, The College Handbook, a whole pamphlet rack devoted to careers in the military, etc. In the back of the Career Center is a sectioned off area with a teletype terminal for users of the state's Occupational Information System.

Through the Career Center, the Career Assistant and her co-worker administer the Career Comprehensive Program. The program covers numerous areas of career education and information dissemination, and according to the Career Assistant, all students participate in the program throughout their three years at the high school.

Through the program, professional people in various occupations are brought in for seminars with the students (e.g., psychologists, dietitians, credit managers, home economists, fashion merchandisers). There are four to five of these seminars each month, and each student is required to attend four seminars per year. In addition, college and military representatives give seminars, as well as summer job representatives from the state. There are also two school-wide career days per year. Aside from the seminars, the program offers separate curricula for sophomores, juniors, and seniors.

Nonpoverty/Experience School

In their junior year, students are given interest and skill inventories (Occupational Search and Values Clarification).

As seniors, students attend special workshops (called Senior Transition Workshops) on topics such as resume writing, job-hunting skills, and employment security. Community members generally give the various workshops. Also for seniors, there are field trips to colleges and local businesses. Each student has a career folder, kept on file at the Center, which follows him or her through high school.

In addition to the Career Comprehensive Program, the Career Assistants maintain a work-training program, which provides job experience for low income students. The program requires students to work in local businesses for four hours after school for minimum wage. I was cautioned not to think of this as part of the school's Vo-Tech program, as the funding for the work-training comes from CETA and the Department of Labor. Students who participate in the work-training program must also attend workshops on Communications Skills and Career Information Search as well as participate in the Career Comprehensive Program.

This high school also has two Career Days, one in fall and one in spring. Students fill out a questionnaire in which they indicate areas of interest. The career assistants then seek out professionals in these areas to speak to the students. Because of the expected merger next year of this high school with another, the career days may be dropped.

A special problem for this school is the recent influx of a large number of Indo-Chinese students, many of whom have inadequate English language skills. For these students the school provides special workshops in English language and social adjustment.

Individual Interviews

12th grade white female/surgeon,lawyer, politician

Subject has not taken part in any of the work-study programs offered by the school but has participated in career days. She was not enthusiastic about the career days, mainly because she felt that the people who came to speak were too pollyanna-ish about their jobs. She would have liked a more balanced picture, with the advantages and the shortcomings presented. Moreover, according to this subject, the program just brings people in willy-nilly, without any consideration of what student interests are.

10th grade black female/television newscaster

Subject is involved in a training program sponsored by a local broadcasting corporation. Through the program she recently had the opportunity to observe the televising of a professional basketball game. The other trainees are students like her; the group meets bi-weekly for activities like the basketball game or speakers on various topics. Through the program the subject will attend a public speaking program in Florida. She says she never realized until she joined this program (about a month earlier) how many different kinds of jobs there were in communications. She would like to experience as many of them as she can, and said she may even change her mind about TV newscasting, but she knows that she wants a communications-related career. This subject also said she had participated in the school's career day ("It happens in your classroom; you have no choice.") which didn't offer anything that was related to her career interests.

12th grade white male/real estate management

Subject has taken part in career days and said that none of them were really relevant to his interests and he thought the way they were arranged was really ill-conceived. He felt it would be far better to have students complete inventories or questionnaires indicating what sorts of people they would like to have at career days, instead of simply bringing some collection of random people in. He also felt that the people who did visit were long on general advice ("a college education is a base from which to work," for instance) and short on the important things like requirements, salaries, long- and short-term demand.

11th grade white male/business

Subject has been exposed to the business world through school-arranged work experience. He works, mostly on weekends, as a Lock Box Processor--one who processes incoming mail payments for businesses and credit institutions. He said his most valuable work experience was learning the responsibility of a regular job.

12th grade white female/journalist

Subject said that she liked to obtain career information on her own. She felt that the career days and work experience arranged by her school were disruptive to the school day.

11th grade black female/computers

Subject is interested in a career involving computers in some way. This interest developed out of the job she has held through the work-study program in which she has been trained to use a WANG word processor. She loves the work. She said she has always been interested in machines, has had this job since September and will continue to work at it until graduation. Her ultimate goal is to enter some sort of training program at IBM, a possibility that she learned of during the school-sponsored career day that she attended recently. If she is not accepted for the IBM training program, she will attend a vocational training program after high school to obtain further training in some facet of computer work.

Summary of Interviews

The counselors in this school seem to have easy rapport with their students and to do well by kids who know what they want to do, and/or are headed for college. The counselors also work hard to line up opportunities for the noncollege bound in work-study programs. Unfortunately, the students' experiences in work-study programs do not seem to lead to much career exploration. Perhaps the most important aspects of these jobs are that they provide an opportunity to earn money for current needs and socialize the students to the world of work; i.e., the necessity of being on time, etc. Only one of the students interviewed was employed in a program truly related to her interests that allowed her to explore career opportunities. She was in a trainee program in communications sponsored by the Turner Broadcasting Company, and got this job through her own initiative.

The annual career days held by the school were seen as worthwhile and helpful to only one of the six students who mentioned them. Evidently only three careers are focused on each year and the students hear the speakers in their classrooms, whether or not they are interested. The presentations are too structured to allow much interaction between students and speakers.

Almost all students wished the school would provide them more opportunities to visit with workers on the job. The students' curiosity about "what it's really like" and "how people really feel about what they do" is unslaked. They also want to know how people got the jobs they had, and how they feel about the necessary training. Film strips and other materials in the library don't really give the "flavor" of jobs the young people seek.

And, unfortunately, even the factual information the library can provide is frequently out-of-date.

All in all, this school seems to have caring, interested counselors, but few other resources that make a contribution of any substance to career planning.

Poverty/Experience School

This high school is located in an attractive, racially mixed neighborhood near the downtown area of a large southern city. Its physical plant is impressive although not very well maintained (there is a full-size stadium and a separate building for special classes, the hallways are wide and the rooms spacious, but there are broken windows, chipped bricks, and peeling paint everywhere). Students and staff are open and friendly; doors are not locked; there is a great deal of (mostly) good-natured banter that goes on all the time. It is not a quiet school.

The neighborhood surrounding the school is one of small and not-so-small single family dwellings, many in need of repair, many recently renovated; a combination of decaying affluence and urban renewal. There are also several substantial-looking apartment houses. Public housing exists within the neighborhood that feeds the school as well. The result is that the school has, as one staff member put it, "a little bit of everything, from the best to the worst." The school population is racially mixed without busing: about 60 percent of the students are black, 40 percent white. There are affluent students and students who qualify for the Federal free lunch program. And because the school is a magnet school for special education, there are programs for the gifted, the handicapped, the educable mentally retarded, and the deaf. Last year, about 40 percent of the graduating seniors (59 students) went on to some form of postsecondary education. There are about 650 students in the school in grades 9 through 12.

This school is proud of its accomplishments. While we were there we were told that of seven merit finalists in the city as a whole, four were from the school. Among its other recent accomplishments were two students who won several swimming events in a city-wide competition, others who won prizes in a city-wide science competition. At the same time, both staff and students spoke with apparent envy of another high school in the city, a larger and more affluent one, that seems (to them at least) to have and to receive many more of the city's resources than does their school.

The guidance offices are located in a pleasant, bustling suite near the main office. One full-time guidance counselor and one full-time psychologist handle most of the routine business of advising, interchangeably. (Why the distinction in title I couldn't figure out.) There is also a part-time person whose function was not made clear but who wasn't present at all during our visit. There is a steady stream of visitors (mostly students) to the counselors' offices, and kids seem to hang out there a lot. Business is conducted in a freewheeling, informal fashion. There is a good selection of college catalogs in the office and a table of assorted brochures, but little else in the way of information for school-leaving students. Bulletin boards (two) contain SAT announcements, college flyers, some posters advertising training opportunities--beauty schools, office training, computer institutes--and graffiti. At the same time, there appears to be a constantly high level of business transacted by students and counselors, and the impression I got was that the main mode of information giving and getting is direct person-to-person contact.

Poverty/Experience School

The school has three different work-study programs, and many (I don't know exactly how many, but certainly many of the people we had scheduled to interview) leave school at 1:00 p.m. to go to work. These programs all involve students' scheduling their major subjects in the morning so that they are free to work in the afternoon. The jobs that students we talked to hold are stock clerking and various office positions, one of which included some training in word processing. One program, the Vocational Office Training Program, is specifically geared to placing students in offices preparing them for "secretarial, clerical, and stenographic type careers." The Distributive Education Program concentrates on work in wholesale, retail and service occupations, and is geared toward students who plan to enter the general field of marketing or distribution of goods. Both of these programs are open to juniors and seniors who are at least 16. A third program, the Coordinated Vocational Education Program, is a classroom-based program for students in grades 9 through 12 who must also hold part-time jobs. In one or more of these work-study programs, students may earn up to five quarter hours in classroom instruction (the equivalent of one course) and ten quarter hours (the equivalent of two courses) for related on-the-job experience. There is also a career day, one each year, that brings representatives from various city organizations to the school to talk with students in their classrooms about the world of work. This year, students met people from a hotel, a computer company, and a soft drink company. Reactions to the career day were mixed among the students we talked to; many found them interesting and informative but the general consensus was that the picture presented of the work world was unduly rosy and optimistic.

The school also has an ROTC program in which about 100 students are involved. (On the day we visited, an inspection by outsiders was scheduled, so many of the students were in uniform.) Only a handful of this school's students enter the military directly following graduation, however. Finally, the school sponsors a program for "teenage mothers." There are presently 20 young women involved in this group, which meets twice weekly with a social worker from an agency outside of the school. According to the guidance counselor, the group exists mainly to talk and share information about its own problems, issues of joint concern, and, most importantly, jobs.

NONPOVERTY/MATERIALS

Summary of Interviews

This school's occupational information system was categorized as materials-based. The school's career center had almost every career information resource imaginable--a computer, eight slide-tape audio-visual viewers, a wide array of printed materials and several microfiche readers. The students we interviewed found the reading materials (especially the open files on occupations which are kept up-to-date), the film strips, and slides very useful.

Six of the eleven students we interviewed said that they had learned a great deal in the career course taught by the career guidance counselor. One student said, "We really learned about how to use resources, how various skills were related to jobs, about salaries, and about how to put interests, skills, and values together."

Career exploration and planning receive a good deal of attention at this school.

Nonpoverty/Materials School

According to a poll conducted by this high school, its student body comes from a diverse community. The social, economic, racial, ethnic, educational, and occupational backgrounds of the parents show a wide variety, the widest in the district. The average family income is $14,200. Some parents report not having finished high school, while others report they have obtained post-graduate degrees. The average educational level of parents is 12.0. Many households have two or more members of the family employed; many are employed in professional, semi-professional, and technical occupations. The city's main industries are aircraft, agri-business, oil and gas production, support and allied service agencies. The high school's students live and work in the center of this environment.

The majority of parents polled feel the school is playing a vital role in the community. They feel the quality of education received at the school is "good" to "average" and is appropriately geared toward college and job skill preparation. They describe teachers' standards or expectations as "about right." Although parents indicate that the lines of communication are open, only a small percentage indicate that they actively participate in school activities. Some opportunities for parents to become involved include volunteer work in the school's attendance centers, sponsoring school activities, joining the Parent Advisory Council, Alumni-Booster Club, and attending meetings with administrators held for incoming freshmen and sophomores and their parents. Opportunities for students to interact with the community include the Cooperative Education programs, services offered through the counseling and career programs, e.g., Red Cross Volunteer Service and Career-Job Service, the United Way Fund Drive, and various community service projects sponsored by school educational programs and clubs; e.g., the Blood Donation Drive, Student-Exchange program with students from Mexico, and music programs serving community organizations.

This high school's student body is 65 percent Caucasian, 19 percent Black, 10 percent Hispanic, 5 percent Asian, and 1 percent American Indian. The diversity of the student population necessitates the implementation of programs which meet the students' needs and state and Federal mandates. Currently, special education programs serve the following groups of students: mentally retarded, educable mentally retarded, learning disabled, students with personal-social adjustment needs, those with special occupational and career needs and interests, and students with limited English-speaking skills. The high school offers courses and career information to meet the needs of those bound for college, vocational school, or immediate employment.

Career exploration and planning receive a good deal of attention at the school. "And it's necessary," says the full-time vocational counselor,

Nonpoverty/Materials School

"because 52 percent of our graduates go directly to work or combine some sort of training program with work right after graduation." Owing largely to this counselor's enthusiasm and drive, the school has a large, well lighted and attractively furnished career center that has almost every career information resource imaginable--a computer, 8 slide-tape audio-visual viewers, a wide array of printed materials suitable for a variety of reading levels and several microfiche readers. Students found both reading materials--especially the open files on occupations which are kept up-to-date--and the film strips and slides most useful. No one liked to use microfiche here or for school assignments in the Library. The computer serves, at the moment, only to identify and list colleges by major curricular programs. Some students say this has been helpful, but it is frustrating too. In order to get a printout, a student must find an adult to do it for him in another part of the school when they have time. At the time of our visit, there was a CETA worker who did this for the students, but her job has now been eliminated. The computer can be made much more useful to the students when they can get printouts themselves as other sorts of software become available. (The vocational counselor is working on this.)

Every sophomore in the school is cycled through a career exploration course in which the counselor familiarizes students with ways to use resources at hand, and to explore on their own. There are opportunities for IQ and interest testing. And there is a good deal of emphasis on assessing one's values and desired life style as well as one's aptitudes. Unfortunately, however, the counselor told us that once the course is over, few students use the center on their own. The counselor is now considering opening up the center to parents who have heard about it from their children and need career counseling themselves. (This school has changed from nonpoverty to poverty status in the past decade. Many parents are in need of "new" or different jobs.)

It did seem to us that the room was underutilized during school hours, but almost every student with whom we talked spoke of the counselor and the course in very positive terms. The counselor seemed to be particularly good at acquainting young men caught up with dreams of glory on playing fields and the "easy money" of sports superstar status with the harsh realities of everyday life. "Even if you make it to the big time, only one injury can end your career," said one would-be basketball star. "Better to plan and prepare for alternatives now."

PROPERTY/MATERIALS

Individual Interviews

12th grade white male/electronics technician

Subject became interested in electronics after seeing a film at career night when he was a sophomore. Since that time he had used the library's reading materials and filmstrips to learn more about the field. He had seen films on careers through his Distributive Education, Government, and English classes. He thought that films were more interesting than reading materials.

10th grade Hispanic male/electrician (family business)

Subject was the unofficial school projectionist so he ran a lot of the films and filmstrips on careers and career planning throughout the school. He thought those shown as part of the English curriculum were best because they addressed the questions of "values, priorities, and talents." He remarked sheepishly, "Oh, in 8th and 9th grade and even earlier this year, I dreamed of becoming a professional athlete but I saw a film and a number of (athletic) stars pointed out that your chances were very slim and that the smart thing to do is keep playing but get in there and prepare yourself for something else. They said it wasn't all glamor. And they talked about moving all around and their schedules. That's not for me. I want to stay in one place and have a good family life too. It's good to learn what's behind the glamor." Apart from films, the subject liked the microfiche machines because it intrigued him that so much information could be packed on "something so little." Exploring other occupations on filmstrips made the subject feel lucky that he had something he liked to do and could do "right in the family."

12th grade white male/fireman

Subject became interested in being a fireman when he saw a film presented by the Fire Department at career night. After seeing the film he used the library's reading materials to find out what firemen do, what their hours are, and what salaries are like.

10th grade Hispanic female/stenographer

Subject saw a film on secretarial careers and decided that it would be "exciting" to be a stenographer. She would like to have a job which involves dealing with people. The subject had not yet taken a stenography course but was taking typing at the time of the interview. She thought she might like to go to business school after high school. She had used the library's reading materials and microfiche to obtain career information.

12th grade white male/electrical or computer engineering

Subject had an appointment to West Point. His guidance counselor suggested that he apply to West Point and when he talked to visitors from the Academy when they came to his school he learned about various engineering fields and manpower needs projections for each. The West Pointers and the film they brought did not stress military careers per se as much as educational and training opportunities that would be of value in any life style.

This subject had seen some other films and filmstrips about engineering put out by Bell and Howell and other companies and found them boring. "They were like lectures...they should put more action in films--and show how engineers apply their knowledge. What problems do they solve and how do they do it?--that's what kids want to know." This student thought the school should have a lot more films about careers and career planning. In his chemistry class, films about "something or other" were shown at least once a week "which is great but too few kids take chemistry."

12th grade white female/dentist

Subject said she had seen several filmstrips on different careers and found them helpful in ruling out careers she had considered at one time or another.

10th grade black male/police officer

Subject said he had used reading materials in the library to learn about what police officers do after he decided he wanted to be one. He found some of the material helpful but some of it was "hard to read." He had also seen films on police work but didn't think they gave him "all the information I was looking for." He was interested in finding out how much police officers make, "how much they travel," and "what the retirement pay is."

12th grade white female/animal sciences

Subject would like to be in the breeding, kenneling, grooming end of a small animal business and had done a good deal of research on the field. She had seen films about various aspects of the field but said she wished more people would come to the school and talk about their occupations so that kids could really learn "what it's like."

Summary of Interviews

This school's career information system was categorized as materials-based and of the 19 students we interviewed 12 specifically mentioned seeing films or using filmstrips or microfiche. Some of the students thought that films were "superficial" but others reported that films had sparked career interests. Each of the seven students who did not mention seeing films had either used the school's reading materials or talked to a guidance counselor.

There is a great deal of evidence in these 19 interviews that this school is providing opportunities for, and encouragement of, career exploration. Those students who had set their sights on specific occupations had also received extensive counseling aimed at helping them achieve their career goals. Career guidance and educational counseling go hand-in-hand here.

We interviewed some very able students at this school but we also spoke with some at the other end of the scale. We interviewed a 10th grade male who was a problem for school officials because he tended to "disappear." The student was extremely inarticulate and had a very short attention span. He said he had found some of the school's reading materials "too hard to read." Both of the guidance counselors expressed interest in this student's interview. He had never demonstrated any interest in career exploration and the counselors were surprised to learn that he had told the interviewer he wanted to become a police officer. Another student, a Hispanic female, who has real trouble with English, told the interviewer she wanted to be a secretary, although she had done very little career exploration. Her real interests were "parties and pets." The guidance counselor explained that she comes from a wealthy, land-owning, traditional Mexican family and that the "parties and pets" (4 horses of her own, 4 dogs, 6 cats, etc.) will occupy her until she settles down to raise a family. This student was neither college-bound nor career-oriented. Although the counselors were sensitive to the cultural influences on her life, they had not allowed her to simply "pass through" high school. She was classified as a sophomore-junior because she had had to repeat several courses and had not yet met the requirements for "junior" status.

We interviewed two 12th grade males who wanted to be engineers and had been accepted at West Point. One of those students had participated in a summer engineering workshop for high school students at the local university. His guidance counselor had suggested he apply to the program and the student came out of it with his career goals firmly set. Another student who was very sure of her career goal was a National Merit Finalist. She plans to be an ornamental horticulturist and had selected and been admitted to a university program in that field.

Although this school has a very small vocational education program, three of the students we interviewed were interested in learning skilled

trades and had found out how to do so. One wanted to be a diesel mechanic but had discovered that the local community college does not offer the training so he had decided to try to find an apprenticeship when he finished high school. Another student, who wanted to be an electrician, was already working 20 to 30 hours a week with his father and uncles who are electricians. The third student wanted to be an electronics technician and planned to go to the local community college to get the required training.

The counseling provided to the students we interviewed obviously took into account each student's ability level, background, and interests. Students were exposed to many different occupations through films and career day presentations. They were encouraged by teachers, counselors, and librarians to use the library's resources to obtain more information on careers that interested them. Students who needed financial aid information or help with college applications received it. The guidance counselors and many other school staff members were actively involved in preparing these students for the world of work.

Poverty/Materials School

This is a small high school in a suburban area of a southwestern city. Its approximately 700 students are mainly middle class with a large proportion of parents in the military or owning their own small (technical) businesses, many of which service the local military installation. There are also some children of extremely wealthy Hispanic land-holding families and a few (mostly Black) from extremely impoverished backgrounds.

Fifty-five percent of the students are enrolled in the general program, forty percent are in the traditional academic program and five percent are in the vocational-technical program. The general program offers adequate "academic" prerequisites for entrance into a number of colleges in the state college system, so it is not accurate to assume when studying data from the school that general students are not bound for college. The drop-out rate is low and military reassignment accounts for a good deal of it.

In a recent study of previous year's graduates made by the school, 37 percent were in college, 5 percent in other postsecondary programs, 1 percent were in apprenticeships and 40 percent were employed full time. The local job market is tight and it is not easy for graduates to find jobs.

The school has a warm and purposeful ambience. Staff members from the principal on down to the custodian treated us and each other with open friendliness and willingness to be helpful. Their attitudes were reflected by the students whether or not they were subjects in our study. The student body is 54 percent White, 15 percent Black, 25 percent Hispanic, and 6 percent Asian. Ethnic or racial clustering was not apparent at recess or lunchtime, as it was in many other schools in the study.

The school has three counselors; two are full-time, another is officially responsible for "vocational guidance" half time. Yet all were intricately involved with "career guidance" in working with students as were a number of the administrative staff members. Our impression was of a fluid and very caring community in which students were encouraged to develop and grow. The relative smallness of the school and its architecture may have facilitated frequent student-teacher-staff interactions, but the quality of those interactions was due to the dedication, enthusiasm, and interest of the teachers and counselors themselves.

The school interiors are colorful, intellectually and artistically interesting. The library is brighly lighted, attractively decorated, and obviously well-used. There are numerous displays, including a good deal of student artwork. Card catalogs, periodicals, reference books and some volumes are located in the main library. Directly off this room is the librarian's glass-walled office and the library annex which is a large room containing ten tables and the rest of the library's 20,000 volumes.

Poverty/Materials School

The career file (an entire card catalog drawer) indexes all of the school's career information material. The librarian believes that the SRA Occupational Briefs are the most valuable career information publications in the library. Students are sometimes assigned to use the Briefs for classwork.

There are three microfiche viewers in the library and two individual filmstrip/cassette viewers in the librarian's office. The librarian and the aides are always available to help students set up the viewers and they are used frequently. The librarian said she thought more students were intrigued by the mechanical process than were put off by it. Some students don't use the viewers because they prefer to take material home with them.

There are several display stands in the library containing military recruitment material and "Study Money" brochures.

Individual Interviews

10th grade black female/lawyer or legal aid

Subject said that published materials at school and at home were her principal occupational information resource. She found the materials at school helpful and informative but somewhat dated.

12th grade black female/bilingual education

Subject said that publications in the career resource room at her school had made her believe initially that careers in Special Education were bountiful and the work easy. She later found out otherwise from educators in the field. Turning again to the resource room she found an occupation that matched her interest in Spanish and her desire to teach and help people--she would like to become a bilingual educator, a teacher, or an interpreter.

12th grade black male/radio announcer

Subject said he had read a few materials but doesn't like to read. He would like to have people come to the school to speak about their occupations.

Summary of Interviews

This school's career information system was categorized as publications-based. However, most of the 13 students we interviewed considered their guidance counselors their most valuable career resource. Only two of the students specifically mentioned having been to the Career Resource Center. One said he went once and all he saw was "a lot of military stuff." The other said that publications in the center had initially made her believe that "careers in Special Education were bountiful and the work easy." She later found out otherwise from educators in the field. Another student, who wanted to be a lawyer, said she had used publications at school but found them dated.

We interviewed three students who were enrolled in vocational-technical curricula (one studying air conditioning and refrigeration; one learning plumbing; and one who wanted to be a machinst). All three had used publications obtained through their vocational school classes as sources of career information. One described the material as "accurate, accessible, and easy to use." Another said that he had learned a lot about "working conditions, licensing examination requirements, and job opportunities in the plumbing field" through his courses at the vocational school.

Other career resources mentioned by interviewed students included: films (seen in the classroom), filmstrips, and career fairs. None of the interviewed students cited a school resource as a stimulus for career choice. Although opportunities for career exploration exist at this school, many students apparently do not take advantage of them.

Nonpoverty/Publicat...

This high school is located in a residential and industrial community adjoining a northeastern city. The 1150 students enrolled are distributed across curricula as follows: general, 20 percent; academic or college preparatory, 50 percent; vocational-technical, 30 percent. Seventy-one percent of the students are White, 28 percent are Black, .8 percent are Asian. Typically, about 40 percent of the school's graduates enter baccalaureate programs, 15 percent enroll in two-year colleges, business or vocational schools, 30-40 percent seek full-time employment, and the rest enter apprenticeships or go into the military services.

The school's general atmosphere is pleasant; students and teachers appear to treat one another with respect. There was no rowdiness in the halls and the research team saw no evidence of drug abuse.

The high school has five full-time guidance counselors, including a director of guidance. The school maintains a career center that is separate from the guidance office. It is a well-lighted room with bookshelves, comfortable chairs, and low tables, very much like a library reading room. Rock music plays softly on a radio. A paraprofessional sits at a desk by the door to help students find materials and check them out.

The center's collection includes the major bound references and several series of career briefs (e.g., Chronicle) bound together by series. Most prominent is a rack of large manila envelopes, each marked with the name of an occupation and containing pamphlets from professional associations. A "freebie rack" offers fliers and pamphlets about career training programs. The center also has an extensive collection of college catalogs, plus several reference directories of colleges. There are a few career soundstrips.

The center runs an employment service which local employers call to recruit part-time workers. The main purpose of the service is to help students earn money, not sample occupations.

The director of guidance is quite satisfied with the school's comprehensive guidance system, although he said he "tries not to be complacent" and is always "open to suggestions for improvement." He makes two formal presentations each year to the junior class. The first is an introduction to colleges which includes a film on the SAT, discussion of college admissions procedures and the advantages of various types of four-year institutions. The second presentation introduces students to two-year colleges, business schools and vocational-technical educational opportunities. Each of the guidance counselors is assigned approximately 300 students and the director insists that students see counselors at least twice a year. The director tries to facilitate this heavy contact load by doing most of the guidance office paperwork himself.

Nonpoverty/Publications

The director mentioned that inflation and budget cuts are making it difficult to keep the college and career material up-to-date. He fears declining enrollment may result in guidance office staff reduction.

When asked if there were any particular group of students the guidance department had difficulty serving, the director said they were frustrated by the "don't want nothin'" kids. He said those students had no discernible career or academic aspirations and could not even be persuaded to be counseled. The director is also disturbed by some students who have made career decisions (usually involving some form of skilled labor) and take only those academic courses required for the high school diploma. He urges these students to "keep their options open" by taking more math and science courses.

The director said that the local and regional job markets are good and that those students leaving the high school with job training (i.e., business, clerical, or vocational-technical skills) have no trouble finding employment. The local job market is oriented toward office occupations (state government, research organizations, and technical development centers) and many local jobs require higher education. Job opportunities in manufacturing are severely limited at present because the major manufacturer in the area is an automobile company. Student interest in the military has risen over the past few years and increasing numbers of graduates, both male and female, are going into the service.

Individual Interviews

12th grade white male/computer programmer

Subject reported that there were few career materials or books available in his school and said that the ones that did exist were unsatisfactory.

11th grade white male (orthopedically handicapped)/accounting clerk

Subject took a career planning course in the school's business curriculum and had read material from the library on careers in accounting as a course assignment. He thought that the literature was out-of-date. (This subject's father is the office manager of a CPA firm and the subject said that he had spent time in the office observing accountants.)

10th grade white male/lawyer

Subject said he had used the school's resources very little, but did find a U.S. Army pamphlet about law in the military and was hoping to go to West Point and get his legal education in the army.

10th grade black male/long distance bus driver

Subject was interested in learning how much long distance bus driving paid and what the demand would be. He found the information he was looking for, but said some of it was too complicated (the reading level was too high).

10th grade black female/computer programmer

Subject said that she thought reading materials were the most useful career resource in her school. She stated, "No one expects anything of blacks here" but by reading she had learned to keep her options open. If she has enough money she may go to a two-year college. If not, she may enlist in the service in order to take advantage of the training and educational benefits. The materials that "spoke to her" were U.S. Army publications.

Summary of Interviews

We interviewed fourteen students, five of whom were handicapped. Every one of the fourteen interviews conveys a negative comment on the school's occupational information system--in some cases the students'

statements point to the system's deficiencies, in others their stories do so.

Four of the five handicapped students had extremely unrealistic career goals: two, who had great difficulty with speech, wanted to deal with the public (cashier, counselor); one, whose grammar and command of English were poor, wanted to be an author; and one, who was mentally handicapped, wanted to be a lawyer. Two of these students, who were confined to wheelchairs that had to be manipulated by others, said that they had seen two school-sponsored career films that they found very interesting. One was put out by McDonald's, another was about fast food service occupations in general. The one handicapped student whose career goal did seem realistic wanted to be an accounting clerk. He had read material from the school's library on careers in accounting and pronounced it out-of-date. This young man suggested that it would be useful for the school to keep a file of job descriptions prepared by people "actually working" in occupations.

We interviewed nine nonhandicapped students in this school but did not find much evidence of career guidance. Five of the nine students said that they had attempted to use career publications at the school to obtain occupational information--two said the material was too difficult; two thought that the most useful publications at the school were U.S. Army pamphlets, and one said that the school had few materials or books and considered the ones he did find unsatisfactory.

Two of the interviewed students asked the interviewers a lot of questions concerning careers. Other students had obviously had problems that had not been addressed by their guidance counselors. Students who reported having received guidance from their counselors had gone to them with specific requests. No one appears to be "pushing" career guidance at this high school.

Poverty/Publications School

This school is a large suburban high school located in the south central U.S. The approximately 1,600 students are distributed across curricula as follows: 35 percent general; 50 percent academic; and 15 percent vocational-technical. The school population is 85 percent White; 10 percent Black; 2 percent Asian, and 3 percent American Indian. The school is also the one designated by the local independent school district to provide special education programs for three groups: emotionally or mentally handicapped; orthopedically handicapped; and learning disabled.

The school population appeared to be almost totally middle class. This observation was confirmed in informal conversations with several faculty members and guidance counselors. However, the one guidance counselor who was formally interviewed said that although about 80 percent of the students comes from middle class families, he believes about 10 percent come from very wealthy families and another 10 percent are very poor. This counselor also said that the majority of the students' parents are "professionals."

The school runs a fairly large Distributive Education program and also offers a Cooperative Office Education program. The Career Education office is physically located in the Distributive Education office area (a considerable distance from the main office area where the guidance counselors are located).

When one of us visited the Career Education room 20 students were going through want ads in a desultory and uninterested manner. A greater portion of their time was spent looking out the window or just "resting." The walls were bare so there was no point in staring at them. When the counselor was asked about materials used in the career education classes, he said, "Look around. Open any cabinet you want." We did and all but one were bare. The only materials in the room were a stack of copies of "A Career Decision Making Mini Course for High School Students" prepared by the local County Career Education Program. When I asked if that and newspapers were all the materials used in the course, the teacher responded, "Yes, and we have a hard time getting through that." The program is optional and serves 60 students (out of 1,600) a year, 20 at a time.

Here we may mention parenthetically that if the Occupational Outlook Handbook or other usual resources are in the school, they are not in evidence here. I looked for them in guidance offices as well and they were not apparent there either. What books there were, were on a wall well behind the counselor's desks, and could not be picked up and used by students without asking the counselor. No "easy access" in this school.

When interviewed, the guidance counselor stated that he thought the school's career information resources were "very adequate." They have

a career day every year for which the entire school closes down and students are "locked in." At least 60 different occupations are "represented" and students are required to "attend" at least three presentations. The counselor said that they had also arranged a career night in an attempt to reach both parents and students. Unfortunately, the career night was not well attended--there were more people who had come to talk about occupations than there were students and parents.

The counselor would like the school to have more career classes and he would also like to see more faculty members "involving their classes with career opportunities in their disciplines." Because of declining enrollment, the guidance staff was cut last year by one and a half FTE counselors. The present half-time person is the school's dean and his only guidance function is the exercise of supervision over the three remaining full-time guidance counselors. Thus, three guidance counselors are responsible for the counseling of about 1,600 students.

The students the guidance staff find most difficult to serve, according to this counselor, are those of "less than average ability." He said those students are usually poorly motivated and frequently absent from school.

The counselor said that the local and regional job markets are "good" and he does not think that either has any serious weak spots. The growth industries in the area include aircraft manufacturing and oil. The counselor said that any graduate wanting to find a job could do so. Approximately 10 to 15 percent of the students enter the military immediately after graduation and another 5 percent go within a year or so.

The counselor estimated that at least 50 percent of the students are employed part-time (in non-career related jobs). The school does nothing about helping students get part-time jobs--they have no trouble finding them on their own, according to the counselor. He said that most of the students work in order to buy cars and pay for car insurance. Many students also work at the school during the school day--they do <u>not</u> get paid but do receive course credit for the work. Some work in the offices and shops and others assist science teachers in lab courses.

This school does not appear to have much of a career information system in operation. It does, of course, have guidance counselors and some occupational information resources, but it seems to lack a coordinated delivery system.

NONPOVERTY/INSTRUCTION

Summary of Interviews

This school's occupational information system was categorized as instruction-based. However, not one of the 12 students we interviewed mentioned any kind of career planning course or occupational information unit. Opportunities for career exploration at the school appeared to be limited. Only four of the 12 interviewed students mentioned any school-connected experience as an impetus for their career choices. The other eight students said they had been influenced by friends, relatives, television, or experiences outside of school.

The interviewed students talked about seeking help from their guidance counselors in choosing the high school courses appropriate to their career goals. These experiences were reported to be positive. Students' attempts to obtain occupational information from the library, however, were not as successful. Only four of the students (one of whom worked in the library) said that they had found the library's resources useful. One student said she had been unable to find the career information she sought and two others said they didn't know where to look or what to look for.

There does not appear to be much emphasis on career exploration or career guidance at this school.

Nonpoverty/Instruction School

This school is located on a main highway on the outskirts of a southern city. It is a large concrete building, the exterior is plain and drab, the interior well kept but well worn. The entire plant was noticeably clean and free of graffiti. There are 275 sophomores, 288 juniors, and 179 seniors in the school; 67 percent are enrolled in the general curriculum, 20 percent in academic, and 13 percent in vocational-technical. School boundaries were redrawn five years ago to effect "court-ordered desegregation," but the enrollment is primarily White, with 15 percent Black and only one percent Hispanic. Academically gifted students are bused to the school from outside its geographic area to participate in its advanced program. Ninety-five percent of the students in that program go on to college. The local school population is primarily low SES.

In general, the atmosphere in the school was comfortable. The counselor who served as our contact person, whose title is "Instructional Assistant," was very pleasant and helpful but obviously harried. We frequently caught glimpses of him dashing through the halls and up and down the stairs at breakneck speed. The other counselor whom we interviewed indicated that the workload was extremely heavy and they were under a lot of pressure from the district--too much red tape and not enough money. In fact, she pointed out that her Occupational Outlook Handbook was out of date and that if she wanted a current copy she would have to purchase it herself. The teachers in whose classes we administered the questionnaires were most agreeable, and two of them talked very freely to us about the school and their students. The students were friendly and cooperative. We were surprised to learn that there had been no all-school assembly programs for several years because of "unrest." One teacher conceded that the students were well behaved in general but felt they were still potentially troublesome in large gatherings, adding that the memories of past problems "were still too fresh." Many people mentioned the "unrest" that followed the redrawing of the boundaries. During the last two periods of the day it is very difficult to take a student out of class for any reason, as even hall passes and signed notes do not permit students to be in the corridors. Adult "security officers" (not in uniform) monitor the hallways, and the public address system is used between classes to remind students to get to their rooms quickly. To us, however, the students were helpful and courteous. Three staff members mentioned to us the strong possibility that the school would be closed next year as an economy move on the part of the district.

Several work-study programs are in operation at this school. Fifteen seniors are enrolled in the coop program geared toward clerical and secretarial jobs. The students work three hours a day in school and the rest of the day at a job. Many students keep their jobs on a full-time basis after graduation. Another 15 seniors take a distributive education class at the school and then go out to jobs in retail merchandising. The Occupational Work Experience program serves about 40 students. The students

have a one-hour class each day, in which they learn about the world of work and are helped to find part-time jobs. Students can take the one-hour class as an elective in 10th or 11th grade but are not encouraged to take jobs until 12th grade. About 140 juniors and seniors participate in coop programs through the vocational school in the district. If a student has learned enough about a job before it is time for graduation, the school will allow the student to work full-time and receive credit toward a diploma without continuing to go to school. Although the local job market is tight, most students in these programs are able to find employment. The counselor noted that getting a job is much more important than school for the low SES students. Most college-bound students are still searching about careers. College representatives come to the school, and students can go and talk to them individually. (In fact, a representative from the state university was there during our visit. She spoke to seven students, most of whom were able to indicate a general field in which they were interested. An Army recruiter was available for students another day, but we were unable to find out how many students went to see him.) There is also a county-wide college night in the fall. One local college sponsors an Engineers' Day, and the local Medical Society has health career programs several times a year. One student mentioned Black Achievers, a nonschool program that was providing career guidance and information for him.

According to an analyst at the State Employment Office, the local and regional job markets are poor. The unemployment rate is 10 percent for the general population and 25 percent for 18-21 year olds. Most high school graduates stay in the area. The major local and regional industries and employers are lumber and related construction materials, furniture, fabricated metals, heavy machinery, large and small appliances, food, tobacco, publishing, chemicals, construction, transportation, finance, real estate, and stone, clay and glass. The construction, transportation, and chemical industries are all "suffering."

Occupational and career information is on the shelves in the library, which is open briefly before school and not at all after school. Many students do not have study halls and must be excused from a class if they want to use the library. (Students wanting to see a counselor have a similar scheduling problem.) Other career information and college catalogs are available in the waiting room area of the counselors' suite. Closed doors, a strict one-way traffic pattern, and a receptionist just inside the entrance are inhibiting factors to students' use of this area. The bulletin boards in the hall outside the counselors' suite (the only bulletin boards anywhere in the halls) contained a haphazard collection of college and career information, about 25 percent of which was outdated.

Individual Interviews

10th grade white female/cosmetologist

Subject's current career choice came about as a result of the career unit in a course she took in 9th grade. She had been interested in camp counseling but found, as a result of the career research project she did for the course, that she couldn't count on it as a year-round occupation. A friend did her research project on cosmetology and when the subject read it she decided cosmetology would be a good occupation for her.

12th grade Hispanic female/actress

Subject's first love is theater, although she acknowledges that it may not be the most practical career choice. She became interested in drama during the summer between 6th and 7th grades and began taking courses in it in 8th grade. She found the career development unit in a course she took most helpful in learning about careers in the theater. As part of that course she read books from the school library and the public library, looked into college catalogs, interviewed an actress, and wrote a paper about acting careers. She learned how competitive the field is and how much professional preparation is required.

10th grade Hispanic female/foreign intelligence agent

Subject said that the career unit she had as part of a course at school was "very helpful" to her. She did a research report on intelligence work.

Summary of Interviews

This school's occupational information system was categorized as instruction-based. Five of the 13 students we interviewed mentioned taking the school's career exploration course, "Life: Myth and Reality." All five of those students believed the course had been useful. Three other interviewed students were taking courses at the city's Career Education Center. Five of the students we interviewed had used reading materials from the school library to obtain information on careers.

Poverty/Instruction School

This is a very large, urban high school situated on a main highway on the edge of a large city in the mountain states. Approximately 50 percent of the students are enrolled in the academic curriculum, 25 percent in the general program, and 25 percent (by the career counselor's figures) in the vocational-technical curriculum. We had difficulty reaching our quota of vocational-technical students (according to the students' classifications of themselves on the questionnaire), and although the counselor would not explicity say so, we concluded from his statements about parents' upward aspirations for students at the school that "vocational" was an unattractive label. Most families in the area are blue collar. There are no very rich families, and there are two housing projects, which contribute lower SES families to the school population. There are no handicapped students because it was found that the building was too difficult for them to manage, even with ramps and an elevator. The student body is roughly 5 percent Asian (many of whom are sponsored by local churches), 2 percent Black, 31 percent Hispanic, and 61 percent White. The counselor said there were no racial problems, and the students we had contact with seemed to mix easily across ethnic lines. Discipline, apparently, is not a major problem.

The library is large and well supplied. Books with career information are shelved according to the subject areas they cover. There are also periodicals dealing with careers. In addition to several videotape machines in the library there is a large audiovisual room in constant use by the students. There are also five microcomputers available for student use.

There are six counselors in the school, each of whom is responsible for general counseling for at least 200 students. The career counselor is one of the six, and in addition to his assigned counselees and his career guidance responsibilities, he handles all standardized testing and arranges schedules for the students who take courses at the Career Education Center and the Opportunity School. Another counselor serves as the college counselor for academic students. There is a social worker in the school, and that office is open all the time, with someone on duty even when the social worker is away from the office.

The counseling center at this school consists of a large, comfortable, open area with offices for the career counselor and college counselor at the back. The center was a gift from the classes of 1967 and 1968. The outer area contained several tables and many comfortable chairs and was decorated with student artwork. One large bulletin board (covering an entire wall) contained information about colleges, scholarship programs, and events and activities related to college and career choices. All the information was neatly arranged and up-to-date. There was a large poster listing information about specific health careers--what each job entails, the educational requirements, where to get the necessary training in the state, and where to get more information. A large peg board displayed

holders with multiple copies of school brochures, folders describing various careers (from the Dictionary of Occupational Titles), and pamphlets about programs for Black and Chicano students. A notice invited students to help themselves. There were racks of college catalogs and displays of brochures from the armed forces. The emphasis on institutions within the state was noticeable, but there was national representation among the materials. There was also a microfiche reader but no evidence of material to be read. While we were using the outer room for the questionnaire administration a number of students dropped in to look over the bulletin board or pick up information. A schedule of visits by college representatives was posted outside the counselor's office, and a representative from a university was there one morning to meet with students individually.

About 200 students per semester spend two hours of the school day at the Career Education Center which serves all of the city's public schools. Students are bused to the center and back. The center offers over 100 specialized courses in regular academic areas and the arts (for example, Theater Design, English for Speakers of Other Languages, Criminal Justice, Interdisciplinary Programs in Computer Technology, Chinese, Studio Art, Chamber Music Workshop, and various AP courses) and in occupational skills (for example, Legal Secretary, Construction Electrician, Fashion Creations, Patient Care, Welding, Real Estate, Automotive Mechanics, and Graphic Communications). Students are also eligible to take courses at the Opportunity School, which is primarily an adult education facility with CETA and veterans programs, provided the courses do not duplicate courses offered at the Career Education Center. Approximately 205 students per semester take courses at the Opportunity School. The counselor also described the metropolitan youth center, which is an alternate school for students who cannot function in a tightly controlled environment. Students can transfer to the youth center at any time and are allowed to work at their own pace.

Tenth graders can participate in a coop program, in which they hold part-time jobs while receiving classroom instruction in worker traits, employer expectations, and how to get a job. In eleventh and twelfth grades there are work-study programs specifically directed toward particular career areas: Distributive Education (marketing and sales), Industrial Cooperative Education, Office Education, and Home Economics Related Occupations (work in nursing homes, restaurants, and related fields). The school offers a course entitled "Life: Myth and Reality," which about two-thirds of the tenth graders elect to take, and which contains a unit on career education as well as dealing with such subjects as drug abuse and sex education. Several students whom we interviewed cited this course as having provided them with valuable career information, either through the research they were required to do or through exchange of information with others in the course.

The career counselor maintains a list of part-time jobs. People who have jobs available call him, and students are free to consult his list for opportunities. There were very few such jobs available when we visited the school, because of the general slowdown of the economy.

The job market in this area is very tight. There are many job opportunities in the building trades, although it is difficult for students to get into the apprenticeship programs as soon as they graduate, because of the competition. People with a strong interest in apprenticeships generally work at unskilled construction jobs for a few years while waiting for an opening in an apprenticeship program. Approximately 3 percent of the graduates of this high school go into the armed forces. The career counselor noted that most young people do not want to leave the area (for obvious reasons) and that this deters some of them from entering any technical fields that would necessitate their moving to find job opportunities.

Approximately half of the school's students enroll in four-year colleges the September following their graduation. The counselor estimated that as high as 75 percent eventually go to college. The school maintains a counseling program through the summer. The counselor felt that more students than ever before know what they want to do and choose a college on that basis. Fewer of the top academic students choose liberal arts than in previous years. Engineering and business are very attractive fields. Only 8 percent of the college-bound seniors leave the state. Those who do go out of the state generally chose Stanford, one of the Ivy League schools, or a church-related college. Most students interested in a junior college go to one which is only four miles away.

When students say they "don't know" what they want to do, the counselors suggest testing. One counselor uses the Armed Services Vocational Aptitude Battery. Students are often referred to the career center at the local junior college, which provides a battery of tests and personal interviews. There is a bus to the campus. The counselor spoke forcefully about the importance of interpreting SAT and ACT scores for students so that they aren't discouraged by low scores.

Group sessions on college planning are arranged for academic juniors and seniors. Students are "invited" to attend, and almost all do. The counselor tries to group students by academic achievement, so that the presentation can be directed to a level that will be relevant for all participants. The sessions for juniors are fairly general, while the senior groups get into more specifics. Students and their parents can make appointments for individual interviews with the college counselor, who noted that sometimes parents want to come in to talk to him alone. The school sponsors two college nights each year--one for state colleges and the other for out-of-state colleges.

Poverty/Instruction

The counselors and students were very helpful and cooperative with us--particularly the career counselor, who had gone to a lot of trouble to anticipate our needs and arrangeıfor a representative sample of students. Several of the students asked searching questions about the study, and we learned later that one of them has a part-time job with the Health Department, interviewing patients in health care facilities to determine the quality of the care they receive. He was obviously sensitive to the reversal of roles.

NONPOVERTY/MINIMUM

Summary of Interviews

This school's career information system was categorized as "minimum resources." Most of the 15 students interviewed said that their guidance counselors had been their most useful career information "resource." Several students cited their counselors' availability. Students who had sought guidance counselors' advice on postsecondary education or career exploration were quite satisfied with the results. Many of the students we interviewed had done little in-depth thinking about careers. Students had "thought about" this or that but few had really researched occupations. The students who had obtained the greatest amount of specific information on occupations were in vocational or distributive education classes--they had learned about occupations through their coursework.

It was apparent from talking to students at this school that the guidance counselors were receptive and helpful when approached by students. However, there did not appear to be any structured career exploration opportunities.

Nonpoverty/Minimum School

This high school is located in the suburbs of a large midwestern city. The enrollment in grades 10 through 12 is over 1,200; 88 percent of the students are White, 9 percent are Black, and 3 percent are Hispanic, Asian, and American Indian. Approximately 40 percent of the students are enrolled in the academic curriculum, 30 percent in the general curriculum, and 30 percent in the vocational-technical curriculum.

This school has four full-time equivalent guidance counselors. Each counselor follows one class through three years of high school. Consequently he gets to know the individuals in one class quite well, but is not familiar with other classes. It also means that guidance activities peculiar to one grade level come around only once every three years or so, and administrative details must be relearned.

The guidance staff and the school principal were most helpful in the administration of the questionnaire. One of the guidance counselors drew a sample of forty students from each of three grades, selecting every tenth student from the alphabetic rosters. Each grade in turn was asked to report to the cafeteria where the questionnaire was administered. All attendees seemed perfectly willing to cooperate. The only nonresponse was due to those absent from school that day. Attendance was very good, especially for a Monday morning. Students were given as much time as they needed to complete the questionnaire. No student seemed so discouraged by the length and difficulty of the instrument that he might give up before completing it.

The school had a state CIS computer subscription and lost it two years ago during budget cutbacks. New this year is an occupational resource room attached to the guidance offices and open to the students. An incomplete inventory of its contents: college catalogs and view books (e.g., Barrons); financial aid information; Chronicle of Occupational Guidance; Occupational Outlook Handbook; military recruiting materials; brochures for technical institutes.

The state mandates a large and well organized vocational education program for all public high schools. Several school districts will have a central vocational facility to which all their vocational education students are bused after morning academic classes. This high school's physical plant was constructed before the advent of state-mandated vocational education. Thus all of its programs are run in-house and students do not leave the school. They have the usual wood, metal, and electronics shops, an automotive repair and body shop, a cosmetology program, a computer science program, and a word processing/office skills program.

The largest employer in the area is a military base located just three miles from the school. The base employs approximately 35,000 people,

both military and civilian. Military recruiting in the high school seems extensive, successful, and generally accepted by the student body. Military families are highly mobile, with typical tours of duty lasting two to three years. The school expects to turn over perhaps 150 students per year due to military moves. Students with college aspirations frequently develop broad-ranging geographic preferences for college study from their travels. About 100 students are in the Junior ROTC program.

The industrial side of the local economy is in a state of flux. Some industries with outmoded capital equipment have had to shut down and leave. Others are suffering from the current economic slowdown or feeling the forces of economic change. Despite this, high school students do not seem concerned about the availability of jobs in the area. Some 40 percent of the school's students are attempting to enter the job market directly after graduation. The counselor pointed out that some of these are likely to be disappointed with the jobs they get. Many of them appear on the rosters of a nearby two-year college within a few years of graduation. The popularity of postsecondary vocational education is growing; the counselor pointed out that this local facility has expanded dramatically in the twelve years he has been a counselor.

POVERTY/MINIMUM

Individual Interviews

11th grade Hispanic female/engineer

Subject said she was frustrated by the fact that there were "no resources in the school to learn about engineering--not even any up-to-date catalogs from the good engineering schools out of state."

12th grade white male/drafter

Subject said that career information was non-existent at the school and "you get the feeling they don't care what you do as long as you get out."

Summary of Interviews

This school's occupational information system was categorized as "minimum resources." We interviewed eleven students here, and their impressions confirmed the accuracy of that label. Seven of the eleven interviewed students made decidedly negative comments about the school's career resources. (See individual interviews.)

Many of the students we interviewed had obtained occupational information on their own initiative, frequently from sources outside of the school. Even those students who had definite career goals had either discovered how to go about attaining those goals on their own or had very little idea how to do so. One 11th grade male who wanted to be a psychologist said he had used the school's reading material to get more information about the field. However, he had not obtained any concrete information on educational requirements or career opportunities for psychologists. A 12th grade female wanted to be a model and was planning to attend a fashion institute next year--in spite of a rather severe acne condition.

One interviewed student had a definite career goal and realistic plans for achieving it. She was a 10th grade female who wanted to be a teacher because "we need better ones." She has been active in Future Teachers of America Club and has received a lot of career information through that organization. She plans to go to a four-year college and then get a master's degree. Another young women, an 11th grade Hispanic, who plans to be an engineer, had been in the general curriculum heading for a career as a secretary. A representative of a large oil company came to the school to talk to minority students who were good in math and science about starting a club to explore professional careers. This student is now involved with the state's Alliance for Minorities in Engineering program. The Alliance provides speakers, shows films, and counsels students.

One of the interviewed students was enrolled in the agriculture program of the vocational curriculum. He said he enjoyed working with animals but he definitely intends to work in the oil fields. He wants to work with and repair oil field blow out preventers. His father works in the oil fields and the student has learned a great deal about his chosen occupation by reading his father's trade magazines.

This school's occupational information resources are minimal and those students who used them did so on their own initiative.

Poverty/Minimum School

This is a large high school located in a town in the heart of the south central United States gas and oil country. Of the 2,000 students, approximately 78 percent are White, 20 percent Hispanic, and 2 percent Black. The students are evenly distributed across the general, academic, and vocational-technical curricula, with about one third of the students enrolled in each.

The high school we visited is the "poorest" of three secondary schools in this sand and windswept town of almost 90,000. The district has been involved in a desegregation dispute with the Federal Government for three years which everyone hopes will be settled shortly (within days or a week). Many programs have evidently been put on "idle" until the case is settled. The gas is never completely shut off in this part of the world, but certainly nothing new has been initiated in career planning programs for students in the past year or two. District attention has focused on the other two high schools: one because it was/is already the most truly comprehensive high school in the system with strong vocational-technical facilities and programs and higher SES and ability level students; the other because it has been the traditional minority school and the district is careful that the programs in that school be "equal" to if not integrated with the rest of the system.

Another problem is that the school's population is transient, as is that of the community as a whole. This is particularly true for the unskilled and semi-skilled workers in the oil and gas fields. There is at least a 20 percent turnover of students during each year.

It seems that the desegregation problems and the transient nature of the student body seem to excuse, at least for the counselor in charge, the absence of vigorous attempts to provide much career planning information of any sort to students. A contributing factor may be that graduates from most vocational programs can go right into $18,000-a-year jobs and that the unskilled can command $100 a shift if they are willing to dig ditches. This is a boom town with no unemployment. Since anyone who wants to can work (at something or other), there is little press on the school to do better, particularly for that minority of students who want to go on to higher education. College catalogs cover only the state and only part of it well, and they are out-of-date. Scholarship information is scanty and covers the same region with the exception of two posters about opportunities in the military academies. Standard reference books about careers and career planning were not in evidence.

There are problems for the noncollege bound as well. The main one is that there is little opportunity to learn about a variety of occupations before signing up for a specific vocational program. If one changes his mind six months later, it is very difficult to switch out. This and other deficiencies in the system didn't seem to bother either of the counselors to whom we spoke. "After all, anyone can get a job who wants one. And we

have a community college right here."

Fortunately for a few bright minority students, industry has jumped into the void at the school and has mounted a program to raise the aspirations and opportunities for Mexican Americans by introducing them to careers in science and engineering and providing counseling and support to help them reach these goals. My question to the counselors as to whether there were similar programs for bright students who were not Chicanos was met by blank stares.